DOCUMENT RESUME

ED 093 675 SE 017 926

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TITLE	A State General Master Plan for Developing Environmental Education Programs in North Carolina.
INSTITUTION	Governor's Task Force on Environmental Education, Raleigh, N.C.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Office of Environmental Education.
PUB DATE	Mar 74
GRANT	OEG-0-72-5041
NOTE	124p.; Includes Supplements A and B
EDRS PRICE	MF-$0.75 HC-$5.40 PLUS POSTAGE
DESCRIPTORS	*Environmental Education; Evaluation; Guides; Interdisciplinary Approach; Objectives; *Program Development; *Program Guides; *Statewide Planning
IDENTIFIERS	*North Carolina

ABSTRACT

This is a report of the planning and development of environmental education programs in North Carolina. Areas discussed are the need for cooperative planning, goals and objectives, and existing programs in scientific and technical training, in public and professional education, and in public agencies. Limitations are noted and specific recommendations for a dynamic statewide plan are given. A complete timetable for the coordination of proposed phases is given, complete with specific objectives and strategies to be evaluated. A supplement lists various federal, state, and private agencies that might be of aid in implementing environmental education programs. (LS)

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A STATE

GENERAL MASTER PLAN

for

DEVELOPING ENVIRONMENTAL EDUCATION

PROGRAMS

in

NORTH CAROLINA

The Governor's Task Force
on
Environmental Education

Raleigh, North Carolina
March, 1974

SE 017 926

This Plan was produced by the Governor's Task Force on Environmental Education supported by the staff of the North Carolina Environmental Education and Outdoor Beautification Programs under Grant Number OEG-0-72-5041 of the Office of Environmental Education, United States Department of Health, Education, and Welfare.

Raleigh, North Carolina

March, 1974

North Carolina Department of Administration
William L. Bondurant, Secretary

North Carolina Environmental Education
and Outdoor Beautification Programs
Thomas B. Baines, Director

FOREWORD

North Carolina is fortunate in that her most pressing environmental problems stem from situations that are still controllable or even reversible. We have no burning rivers, no unhealing mine scars, no sulpherous deserts - but, solutions to conflicting needs, concensus on resource usage, discovery and application of alternative resources, agreement on what constitutes "the good life", and the other important environmental decisions facing us must be made soon if North Carolinians are to continue to enjoy "the goodliest land under the cope of heaven". These decisions must not and cannot be made in an informational vaccum, however. Every citizen must be given access to the knowledge and skills required to make environmental choices, and to turn choice into action. This document outlines the first necessary steps in planning how that access shall be established.

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ACKNOWLEDGMENTS

Without the encouragement, help, cooperation, suggestions and guidance of many interested persons throughout North Carolina, this plan would not be possible. More importantly, without continued hard work by these people, and many more like them, this plan will never be fully implemented and successful. To these people the Governor's Task Force on Environmental Education expresses its most sincere thanks.

Special credit is due to Mr. Eric Slaughter and Mr. Peter A. Wish of the North Carolina Environmental Education Program, North Carolina State University, from whom many of the refinements of this plan were taken. Without their assistance and encouragement this plan would not have been written. Thanks is also given to the Steering Committee of NCEEP for its cooperation with and help to the support staff. We are particularly indepted to Representative Norwood Bryan of the North Carolina General Assembly and Dr. C. Ritchie Bell of the University of North Carolina at Chapel Hill for working to get funds to test the concept of State grants for local environmental education programs.

In seventeen meetings across the State, the hundreds of citizens associated in the North Carolina Environmental Information and Education Coordinating Network have offered us their good will and suggestions. This plan is, to a large part, an expression of those suggestions.

DISCLAIMER

In spite of the assistance, aid, encouragement, consultation, and chastisement of practically everyone in North Carolina, there are sure to be errors in concepts and composition throughout this document. The responsibility for those errors must finally rest on the head of the principal draftsman of the support staff, Thomas Baines.

To my friends and associates who recognize some, or even much, of themselves in this document, I can only ask them to consider what seems to be plagiarism as a high compliment.

TABLE OF CONTENTS

I. Introduction

I-1 History of the State Effort in Environmental Education
I-2 Basis of the Present Plan

II. Why Plan?

II-1 The Environmental Imperatives
II-2 New Interdisciplinary Concepts
II-3 Desired Administrative Efficiency

III. Goals and Objectives

III-1 Principal Goals
III-2 Overall Objectives

IV. Current Status

IV-1 Needs and Requirements
IV-2 Programs in Scientific and Professional Education
IV-3 Programs in Technical and Para-Professional Training
IV-4 Programs in Elementary and Secondary Schools
IV-5 Programs in Public Information and Interagency Coordination
IV-6 Programs about the Visual Environment
IV-7 Laboratories, Centers, and Environmental Study Facilities

IV-10 Constraints and Limitations

IV-10 Administrative
IV-11 Legislative
IV-13 Fiscal

V. Recommendations

V-1 For Implementation of this Plan
V-1 The Plan as a Dynamic Concept
V-2 The Central State Organization
V-4 The Network for Statewide Contact
V-6 Training Environmental Scientists and Technicians
V-7 Pre-Service and In-service Teacher Training
V-8 Public Education, Grades k-12
V-9 Public Information and Agency Coordination
V-10 Centers, Study Area, and Laboratories
V-13 Finances

Appendix A - Documentation

Appendix B - The North Carolina Environmental Education Act of 1973

I. Introduction

North Carolina has had a variety of environmental and conservation-oriented programs for some time. State programs in soil conservation, water quality and water supply, air pollution, sanitation, fish and wildlife management, forestry, agriculture, etc., have been models for other states to follow. Nevertheless, the State does face environmental problems today. The problems have surfaced as we have grown more sophisticated in our ability to recognize ecological damage, and as awareness of that damage has been pressed upon us by the rapid shrinkage of the area of unspoiled land in other nearby states.

It was this simultaneous burgeoning of technical skill and public awareness that led the United States Congress to author the National Environmental Protection Act of 1969. As a result of this national momentum, environmentalists in North Carolina were able to assist the State Legislature in formulating two acts which put formal structure to the State's interests and desires in the environmental field. The first was the North Carolina Environmental Education Act of 1969. The second was the North Carolina Environmental Policy Act of 1971. Two immediate concerns of state government were the writing of guidelines for environmental planning in North Carolina, and a plan for public education which would result in both: (1) a citizenry able to make informed choices between alternative environmental decisions, and (2) the corp of technically competent persons to actualize the choices made by the electorate.

The planning guide was published in June 1971. It resulted in a clear statement of environmental problem areas and related functional solutions which can be applied throughout the state planning process. Two of the major functional solutions were related to public awareness and the educational process. Specific recommendations were made as to how these solutions could be reached.

On May 1971, the Governor established an Environmental Education Task Force charged with actualizing the suggested solutions in public awareness and education

through a State Plan for Environmental Education. This broadly based Task Force has met from time to time in an effort to tie together the multitude of public programs, special interests, local and regional activities, and private practices that influence public environmental education. In June, 1972, the Task Force issued a proposal to the Department of H.E.W., Office of Education, for funds to develop an environmental education plan for North Carolina. These funds were to be used to hire a support staff for the Task Force in writing the plan. In September of that year final organization was made in the State Department of Administration for the support staff.

The staff spent several months attempting to make personal contact with those groups and individuals in North Carolina who could provide the valuable assistance required to write a useful and meaningful environmental education plan for this State.

With the aid of a statewide committee representing the business, educational, civic, and governmental sectors of the citizenry, and organized as the North Carolina Environmental Information and Education Network, the Task Force began to formulate a plan by answering the following questions:

1. What are the environmental problems in our State?
2. What is Environmental Education and what role does it play in the solution of our problems?
3. What are the long-range outcomes and goals that we desire to achieve in North Carolina?
4. What are the barriers to reaching these goals?
5. What resources and activities are presently available and what is needed in addition?
6. Who has responsibility for planning and organization in each specific sector of Environmental Education?

7. How can we best plan and organize a planning and implementation process for environmental education, and then evaluate the effectiveness of that process as well as the continued relevance of our stated goals and the plans devised to reach those goals?

The following briefly summarizes the findings of the Task Force.

WHAT IS ENVIRONMENTAL EDUCATION?

Essential elements of definition:

1) E/E is a process, that is, it is a cumulative activity, with each new level of schooling adding sophistication in skills and depth to understanding; and, the specific nature of courses and emphasis will change with a continued cycle of planning, implementation, evaluation, and revision.

2) E/E is a participative activity at every stage. Planning, implementation, evaluation and revision must be cooperative with representatives from all sectors, including both instructors and students participating at each step.

3) E/E is interdisciplinary and requires a total systems approach. It must be integrated into present on-going courses rather than being made a separate course of study.

4) The major objective of E/E is the development of decision making capabilities. This capability includes the ability to recognize alternatives, the capacity to weigh them, the confidence to make choices between courses of action, and the technical skills to implement those choices.

5) E/E is problem oriented and at the present, centers on the consequences of mis-allocation and poor management of natrual resources, and the failure to plan adequately for the use of land, water and other such resources.

Based on these elements, we have defined Environmental Education as:

The process of developing personal and public awareness of the interrelatedness of man and the non-human universe. It is part science, part social philosophy, and part aesthetics. It must create an understanding that the abundance of the earth may be illusion, that resource scarcity due to access or endowment rules our lives, and that the establishment of priorities in allocation is the controlling factor in environmental quality. Further, there should emerge from Environmental Education a concern for man's unique responsibilities in a world of total interdependencies where a systems process approach is the key to survival.

WHAT ROLE DOES ENVIRONMENTAL EDUCATION PLAY IN THE SOLUTION OF OUR PROBLEM?

Formal educational programs conducted in the universities, community colleges, technical institutes, and elementary and secondary schools; together with informal educational programs conducted in various media and aimed at creating higher levels and different types of public awareness, result in changes of attitudes and opinions held by participants in those programs. These programs can produce attitude changes that will lead to behavioral changes which move us closer to a goal of an improved quality of life. Those changes take place in both personal individual behavior and in our behavior as a society.

Individual behavioral changes will be reflected in different patterns of decisions in both market and non-market areas, as people shift their dollar votes, political advocacy and personal active participation into forms more indicative of environmental consciousness.

Similarly, changes in societal decision making patterns at both the planning and implementation stages will result in legislation, executive controls, and public investment in technological applications aimed at environmental quality.

The educational and behavioral processes are linked by a double sided coin called evaluation. On the one hand we evaluate the different forms of education against one another to test whether they are reinforcing or conflicting. On the other hand we evaluate the effects of behavior changes on environmental and other factors to determine if we are, in fact, improving our quality of life.

These two evaluation processes must mesh so that we can test the educational efforts against the end product so as to adjust the former to favorably effect the latter.

The linkage system and the roles and responsibilities for us that it involves, may be pictured as in diagrams 1 and 2. The operation of the system in moving toward the goal of enhancement and protection of the environment with a higher quality of life is made clearer by thinking of moving through different hierarchys of objectives, each building on the others, by changing the emphasis of a series of control processes. From the diagrams we have:

OBJECTIVES	CONTROL PROCESSES
1. Attitudinal Changes	. Public Awareness Programs . Elementary and Secondary School . Universities, Community Colleges & Technical Institutes
2. Behavioral Changes	. Market Decisions . Non-Market Decisions
3. Personal Action	. Political Advocacy . Dollar Vote . Active Participation
4. Public Action	. Legislation . Law Enforcement . Executive Controls
5. Development of Programs for Reclaimation and Protection	. Problem Identification . Priority Setting . Alternative Comparison . Choice and Implementation . Evaluation

OBJECTIVES	CONTROL PROCESSES
6. Technology Application	• Environmental Inventory and Basic Research • Economic and Managerial Analysis • Technician Training and Equiping
Each objective must be respecified into measurable terms.	Each control process must be differentiated into programable activities.

Both objectives and processes must be made explicit for all participants in the system. Environmental Education is a way of doing this as it is partly a control process, integral throughout the system, and partly a general flow of information about decisions and objectives which acts as a feedback loop tied to the evaluation processes.

WHAT ARE THE GOALS FOR E/E IN NORTH CAROLINA?

We desire to create an environmentally literate population in our State. It is hoped that a process of participative planning and implementation, an orientation toward problem solving techniques, and a continual evaluation of both the planning system and its goals, will result in the citizenry of North Carolina having the motivation to gain knowledge of environmental alternatives, the confidence and wisdom to make choices between them, and the skills required to turn choice into action.

WHAT ARE THE BARRIERS TO REACHING THOSE GOALS?

The Task Force found that there was:

1) a lack of overall coordination of efforts in environmental education
2) no complete catalogue of existing personnel, materials, or facilities that would be useful in environmental education
3) no clear idea of the scope of, or the means of satisfying, the need for environmental technicians and scientists.

4) fragmentation and unnecessary duplication on the delivery of environmental information to public officials and the general public.

5) no clear assignment of responsibility for planning in the various specific areas of environmental information and education.

WHAT RESOURCES AND ACTIVITIES ARE PRESENTLY AVAILABLE AND WHAT IS NEEDED IN ADDITION?

The task force found many local and regional programs of various sizes and degrees of comprehensiveness, and with widely varying stability and potential for growth. Most good programs are taxed to their limits in meeting the demand for service. Few programs are receiving sufficient funds to allow the breadth of service needed. In some cases, the lack of long-range planning has caused programs and resources not to be used to their fullest potential.

In addition to resources traditionally identified as available for environmental education, each group planning efforts in the field should be alert for resources not traditionally included as "educational" in nature, but which offer the possibility of broadening the range of tools and facilities available to the classroom teacher, instructor, or workshop director. It is generally believed that better use of available resources should have a higher priority than the acquisition of new ones.

WHO HAS RESPONSIBILITY FOR PLANNING AND ORGANIZATION IN EACH SPECIFIC SECTOR OF ENVIRONMENTAL EDUCATION?

1) In providing pre-service and inservice teacher training, and in training environmental scientists and technicians, the responsibilities belong jointly to the Board of Governors of the University of North Carolina and the North Carolina State Board of Education, and concerned private educational institutions.

2) In public education, grades K-12, the responsibilities for planning lie solely in the Department of Public Instruction of the North Carolina Department of Public Education. The responsibility for organization are shared by that Department and the administrative bodies of the independent school districts of North Carolina.

3) In ensuring adequate public information and agency coordination, the responsibilities are shared jointly by all state agencies whose activities directly affect environmental quality and policy.

4) In providing centers, laboratories, environmental study areas, and other facilities to augment local efforts in environmental education, the responsibilities are shared jointly by all those state and local agencies that control access to facilities which offer the potential to be used in environmental education.

HOW CAN WE BEST PLAN AND ORGANIZE A PLANNING AND IMPLEMENTATION PROCESS FOR ENVIRONMENTAL EDUCATION, AND THEN EVALUATE THE EFFECTIVENESS OF THAT PROCESS AS WELL AS THE CONTINUED RELEVANCE OF OUR STATED GOALS AND THE PLANS DEVISED TO REACH THOSE GOALS?

This is the subject of the final two sections of the plan, entitled Recommendations and An Evaluations Mechanism. Generally, the concept is that specifying responsibility for substantive planning, establishing broad programming guidelines, and formulating feedback circuits leading in both directions between the state planning and operating agencies and the local citizenry, will result in a meaningful, flexible, yet well managed effort in environmental education.

It must be made clear at the outset that this plan is not a "cookbook" for planning specific programs for Environmental Education. In our State, the nature of such programs will be decided by local school officials, individual department chairmen, and others far removed from Raleigh. The purpose of this document is to establish a common framework

within which substantive planning for specific programs will be done. Hopefully, this plan will lead to a process for guiding such efforts throughout the State in a manner that will ensure the fast and effective development of environmental education programs.

II. Why Plan?

The Environmental Imperatives

The environmental issues of major importance to this state have been identified and defined in a number of separate reports written by a variety of organizations. Some of these reports were the result of official inquiry, while others were the work of coalitions of interested individuals. All of the reports jointly establish the same problems as being of prime importance. The problem areas are so interdependent as to make separate discussion difficult, but the underlying issues and the way that they are recognizable are: 1) Population growth through its effects on housing and the availability of recreational, historic, cultural, and scenic areas. 2) Resource depletion through the energy "crisis" and the increased costs of many basic raw materials. 3) Land-Use conflicts through the need for better solid-waste management demands for land-use policies, and the desire for continued development of some areas. 4) Pollution control through our current concern for cleaner air, purer water, unpoisoned land, and quieter, more pleasing places to live and work.

Environmental problems are, however, only physical manifestations of underlying conflicts in values. These conflicts must be considered in planning an educational program aimed at developing lasting solutions. A sound plan must be based on developing, in all citizens, the ability to assess such things as:

1) Material needs and consumer values
2) Other human needs
3) Natural beauty and interdependence
4) Stewardship and conservation
5) The rights of individuals, communities, and societies
6) Cultural and social, as well as natural, environments

These are the unquantifiable elements forming the boundaries within which environmental choices are made. It must be recognized that our choices have aesthetic and social parameters as well as economic and bio-physical ones.

Together these elements define the kinds of environmental problems that should be addressed by a plan for Environmental Education in North Carolina.

New Interdisciplinary Concepts in Education

It is obvious that the above problems are closely inter-related. To discuss land-use without bringing in population growth is fruitless. To seek data about pollution without discussing population distribution is meaningless. To try to identify the causes of resource depletion without discussing land-use planning is futile. This inter-relatedness demands that educators not only be responsible for maintaining expertise in their own area of knowledge, but that they also know how to teach the inter-dependence of many other areas. This indicates that changes are necessary in the traditional divisions of knowledge and thus in the methods of teacher training and course planning. Our understanding of the inter-relationships indicated is not great, however. We must insure that long-term irrevocable commitments are not made to programs which are so inflexible as to be rendered feckless by small shifts in educational focus brought about by increased knowledge.

In the area of continuing education and public information, the principles of sound environmental planning must be clearly and conveniently presented so that each citizen understands at least the elements of the decisions which he or his elected and appointed representatives are called on to make in matters with environmental consequences. Every citizen of this state must be provided access, through educational preparation and ready availability, to the environmental information which is needed to make well considered choices between the alternatives presented in public planning and the expenditure of public funds.

Our institutions of higher education must insure that all students are given the opportunity to gain insight into how their chosen professions effect environmental quality of the environment.

All educational and information programs must include as a basic aim to give every citizen access to the knowledge and skills required to make environmental choices, and to turn choice into action.

Desired Administrative Efficiency

Environmental Education must be considered a cumulative process wherein each new level of schooling adds sophistication in skills and depth to understanding. This requires a means of coordinating program and curriculum development so that the environmental skills and insights gained in earlier courses prepares a student for an active and participatory role in other, more sophisticated programs. This concept must be carried through all educational programs from the earliest possible primary grade into the individual courses at our technical institutes, community colleges, and universities. It should also be a part of the philosophy underlying programs receiving public funds and conducted at museums, nature study areas, gardens, parks, and similar facilities whether publically or privately owned. Such a coordinated effort will require a set of commonly acceptable guidelines to be used by all those who plan environmental education and information programs for which State and/or Federal funds are sought, and which could be used by those seeking other sources of funding. Federal and State agencies, businesses and industries, and other institutions and individuals who are producers of environmental information should have guidelines as to how that information can be made most easily and widely available to participants in both formal and informal educational programs.

Due to the limitations which are likely to be placed on the resources available for environmental education, maximum use must be made of existing programs, facilities, and personnel. There must be responsibilities assigned for monitoring and evaluating all environmental education programs and projects in the State so that the best use of previous experiences can be made.

The present and future need for environmental specialists and person with related skills must be determined and kept timely and accurate. Every effort must be made to avoid bottlenecks in the training of such persons which might result from the lack of proper facilities, inadequate numbers of teachers, or the insufficient or improper allocation of funds. Careful evaluation of all programs and accounting for all funds committed must be considered in all planning for environmental education.

The foregoing requirements demand a well designed organization for the management and evaluation of environmental education programs at all levels, and a process for planning and implementing them.

III. Goals and Objectives

The principal goals of environmental education in North Carolina are: (1) to make all citizens aware of how their personal choices affect the natural systems which comprise their environment, (2) to develop in each citizen the motivation to gain knowledge of environmental alternatives, the confidence and wisdom to make choices between them, and the skills required to turn choice into action. These can best be accomplished by offering formal and informal, multi-diciplinary, problem-solving-centered environmental education experiences for all age groups, and at all educational levels. Because of the limited resources available for environmental education, this state must give its educators the training, motivation, and support necessary to introduce environmental concepts into existing curricula with maximum effectiveness at minimum cost. To ensure the greatest impact for our programs, in terms of both time and audience, we must make use of both our conventional and non-conventional educational assets to the limits of their potential. Skills in environmental decision-making are not sufficient to ensure a chosen level of environmental quality. There must also be an adequate supply of the technical and scientific skills required to manage conflicts resulting from simultaneous demands for material goods and environmental quality. Both present and future demand for such skills must be determined, and then programs developed in the state's colleges, universities, and technical institutes to meet those demands.

These desired goals cannot be met through one-time efforts, but must be made the subject of a continuous cycle of planning and review. To balance the pressing need for environmental education in North Carolina against the requirements of sound management, the initial programming of these efforts should be based on a five year time frame, with the fifth year seeing the establishment of a permanent planning and review cycle. In each phase, an effort should be made to encourage the participation of all constituent groups in environmental education - students, teachers, families, business-

men, professionals, public officials, and interested individuals.

Environmental education should be based on those principales drawn from the natural and social sciences that seek to explain the interaction of human and non-human eco-systems. Programs should present the elements and structure of man's physical, biological, social, and cultural environments, in such a way as to engender an understanding of their interdependences. The skills of observation, classification, measurement, interpretation, prediction, and control of environmental variables should be developed throughout the educational experience of each North Carolinian. Aesthetic and creative values and abilities must be made equal to perceptual and organizational capacities in each citizen's understanding of his relationship to and responsibilities for the quality of the environmenta. All programs should draw, wherever possible, on community resources to address real problems involving economic, ecological, and social elements, so as to teach environmental principles within the context of actual decision-making. Objectives in specific program areas are:

(1) To develop programs in grades kindergarten through twelve such that:

a. A student completing eight years of education will have been exposed to the fundamental quantitative and qualitative skills and abilities necessary for recognizing environmental alternatives, and realize his or her personal responsibilities for environmental quality.

b. A person completing ten years of education will have had an opportunity to apply the fundamental skills and abilities to the solution of actual environmental questions.

c. A person who completes twelve years of education will have some understanding of the inter-relationship of environmental problems and solutions.

(2) To develop programs in Adult Education and Public Information such that:

a. All interested persons can gain some understanding of the interdependence of the social, economic, and environmental elements of their lives.

b. Every citizen is given access to the information needed to make environmentally sound decisions in economic, political, and cultural affairs.

(3) To develop programs in Professional and Technical Education such that:

a. Competent technicians and other professionals will be available in the quantities needed and at the times required to meet the needs of the state.

b. Every graduate recognizes how the practice of a chosen profession or trade affects the environment, and is motivated to develop a personal ethic regarding his or her responsibilities for environmental quality.

(4) To develop programs for Interagency Coordination such that:

a. A central record is available of the environmental information sources and expertise held by every agency of government within the state.

b. Any elected or appointed official desiring knowledge of environmental information sources or expertise available in his geographic area can receive that knowledge with a minimum of expense and delay.

IV. Current Status

(Material in this section was adapted, in part, from background documents listed in the appendices)

Needs and Requirements

There is a growing disparity between the demand for and the supply of qualified environmental specialists in several areas. Although the need for teachers qualified to teach environmental concepts is serious, the most dramatic shortage is in the area of technicians to operate water treatment plants, waste disposal installations, and industrial pollution abatement equipment; and, to monitor pollution levels and identify violators of environmental standards. There is also a need for additional numbers of scientists and engineers to do the basic research and development of the technology required for pollution abatement and control. The greatests need, however, in terms of unmet demand is for general, interdisciplinary environmental education programs at all levels of the formal education structure, and in extension and continuing education operations. While developing the environmental skills and concepts necessary for sound environmental choice assessment is important in grades kindergarten through twelve, it is equally important to make those concepts and skills as available as possible to elected and appointed officials, business and professional persons, farmers, and other citizens whose private and/or public lives are increasingly demanding a greater familiarity with ecological principles and environmental thinking. The training of teachers to teach these interdisciplinary programs is, of course, the first requirement to getting such programs offered. We cannot, however, start from point zero in any of these needs. There are already scientists, engineers, teachers, public officials, businessmen and women, and concerned citizens who are faced with the problems of meeting the need for environmental information, education, and decision-making.

There is already a great deal of money invested in facilities, equipment, and personnel for education and the dissemination of information. There are other resources which have not traditionally been conceived of as educational or informational in nature, but which have tremendous potential in those uses. The great requirement is not for the funding of expensive new resources dedicated to environmental education, although some new resources may be required. Instead we need coordinated, innovative approaches to the development and use of existing resources.

More specifically, the following needs and requirements have been identified in particular areas:

Programs in Scientific and Professional Education

This area of need includes those efforts required to train people for research, teaching, policy formulation, and regulatory work. Relevant undergraduate programs as well as specific graduate courses are required. While present needs are for specialists trained in traditional disciplines and prepared to meet existing needs that are identifiable from today's knowledge, this does not preclude a future need for environmental generalists with an interdisciplinary background who can accept a variety of responsibilities as new needs and areas of need are identified. This need for interdisciplinarians may be more identifiable in Environmental Engineering, Public Health, City Planning, Architecture, and Public Administration than in other disciplines. Those disciplines might serve as "early warning" areas where the need for cross-trained personnel can be assessed. Other professional groups, particularly lawyers and physicians, have long recognized the need for cross-training in environmental sciences. The requirements for professionals with environmental, as well as specialty training is escalating more rapidly than planned supplies, however. Responsibilities for pre-service and in-service training of public school teachers in environmental education must fall mainly on the individual teacher training institutions. The State Department of Public Education must give central leadership in this area, however, by establishing the means for using all available resources in coordinated

programs designed to develop environmental consciousness in those who are, or plan to be, public school teachers in all disciplines. A statewide program of teacher training in environmental education is needed.

Programs in Technical and Para-Professional Training

Although a number of institutions in the state have experimented with programs to train technicians who can perform the field work vital to environmental regulation and pollution abatement, there is no mechanism for determining the needs for such persons on either a statewide, regional, county, or local basis. Such needs must be established before sufficient resources will be made available to ensure against a serious shortage of these technicians at some point in the future. There are a number of community colleges and technical institutes in the state with formal programs aimed at training the operators, supervisors, and technicians need to install, operate, and maintain the equipment involved in environmental improvement and conservation. However, continuous needs assessment in a systematic and coordinated fashion is necessary before these programs can meet all manpower requirements. There are fifteen colleges and universities in North Carolina, excluding the community colleges and technical institutes, which currently have formally recognized programs in environmental sciences or planning. The majority of these programs are basically extensions of traditional disciplines. They are aimed at producing a technical-service-oriented specialist. Several institutions have recently established consortia dealing with general areas of environmental concern such as water resources, air quality, population, etc. These consortia are designed to pull together a group of courses offered by existing disciplinary departments into a problem-centered program to be used as minor concentrations by students pursuing traditional degree programs. Although the enrollment in these programs has increased each year, there has been no systematic attempt made to project the demand for individuals with environmental cross-training.

Programs in Elementary and Secondary Schools

Although the State Department of Public Instruction, local school boards, and private individuals have made substantial funds available for environmental education programs in the public schools, there has been no sustained effort to unify these efforts so as to gain economies through cooperation. There is no statewide effort in curriculum or materials development specifically in environmental education. There is very little cross-discipline planning of programs in environmentally related subjects.

There are several excellent programs in curriculum and materials development which have been funded by a combination of state and federal money. These programs have resulted in some very fine resources for use by classroom teachers. There is no official mechanism, however, for the delivery of these resources outside of a limited geographical area, or for aiding the teachers in integrating the resources into their classrooms. There are a number of resources outside of the formal school structure which could be used to great advantage in environmental education. At present there is no unified approach to making these resources available to students and teachers for use to augment the classroom experience. The use of local utilities installations, parks, nature study areas, gardens, museums, etc., is usually left as an "extracurricular activities" to be accomplished on the participants own time; or, at best, these resources are treated as special places apart from the educative process and meant to be used only on special occasions.

Very little use has been made of educational television as a medium for the delivery of environmental concepts to the school-age children of the state. Those programs which have been presented have been nationally developed and no attempt has been made to present local views of the principles presented in these programs.

Programs in Public Information and Interagency Coordination

There are some 23 state, 21 federal, and 20 private agencies involved in the delivery of environmental information to the people of North Carolina. These figures

do not include the consulting firms, specialists, and others that produce and deliver environmental information on a commercial basis. Also not included are the devisions or department of industrial concerns in the state that produce and deliver environmental information for their own and their customers' use. While much of the information provided by these various suppliers is simply the same information under different covers, a great part of it appears to be the result of duplications in research and compilation. The individual or group seeking environmental information of any great degree of specificity is faced with the task of sorting through a large array of suppliers, then defining the pertinent question for each selected supplier so that a useable answer can be established within the capability of that supplier. Not only is this a wasteful process in terms of the manpower expended by both information seekers and suppliers, there is also the factor that finding quality information in this manner often required greater resources in terms of time and people than many information seekers are willing to invest. The result is that decisions are too often made on the basis of less than optimum information. Information which is sub-optimal in terms of completeness, timeliness, or clarity, many cause the information seekers to either accept a result of their efforts which is inferior to that which could have been gained with better information; or, to allow the efforts to be expended in a conflict without solution which might have been avoided with better information. Both outcomes are undesirable when the number of disappointed information seekers becomes a significant part of the population. Although a rigorous quantitative determination of the number of dissappointed information seekers is impossible to ascertain based on available data, a qualitative estimate is obtainable. The results of a series of statewide meetings with environmentally concerned individuals and groups show that at each meeting, the first unmet need discussed was for easier and more timely access to environmental information. A similar result came from the National Symposium on Environmental Information conducted by the Environmental Protection Agency.

Substantial state investment in sophisticated delivery systems for environmental information are unnecessary at the present time. What is needed is better coordination of available informational resources. The optimal solution would be a single office which any citizen desiring environmental information could contact for question clarification and direction to that agency which could best supply the desired information. Such an office should be so located administratively as to give its personnel ready access to the agencies responsible for the production and storage of environmental information. While the office should never be allowed to step outside of the "clearinghouse" function into the actual production of information, it should have a staff, travel, and printing budget of sufficient size to allow reasonably personal treatment of requests for assistance.

The problem of degradation of the visual environment constitutes a special area of concern. Campaigns for anti-litter, junk car removal, landscaping of public areas, advertising controls, and the other elements of civic appearance and beautification require a somewhat different approach than do the other kinds of programs discussed above. These programs embody more of the public relations aspect than do the ones mentioned previously. For effectiveness, they depend on an almost immediate mobilization of public interest and action around a particular issue. Most of the work involved is related to promotion of civic concern about a problem which is commonly accepted as such whereas most of the other educational programs dealing with environmental issues are aimed at preparing people to recognize environmental problems. Programs aimed at marshalling public action toward solving a problem in the visual environment should receive special and separate treatment, but their overall directions should be the same as for the other types of environmental education and information programs.

Laboratories, Centers, and Environmental Study Facilities: Existing and Planned

It has long been recognized that having a special place for teaching a given kind of knowledge aids both the student and the teacher. This becomes especially true in the case of environmental education, but for a non-obvious reason. One might think that environmental education requires a nature setting, or a specially equipped laboratory, or a room with many audio-visual program devices. This is not the case, however. What is needed for environmental education is not a place where teacher and student come to break away from the other disciplined course work which they are pursuing. Rather, the environmental education center must be a place where both teachers and students bring their special interests to see how those interests are related to one another and to the general study of the ecology of man.

The facilities which are or can be used for environmental education programs are quite often not recognized as having this capability. In addition to school sites, community, county, and regional centers, museums, gardens, nature-study areas, and parks, such public facilities as water treatment plants, land-fills, waste treatment plants, and public utility installations offer many opportunities for showing both children and adults the relationships between human needs and the environment. Also industrial facilities often offer excellent opportunities to examine those relationships. In some parts of North Carolina, these "extra-ordinary" facilities must serve as environmental education centers until special facilities can be obtained. Even when something specifically designated as an environmental education center is available, the usefulness of the "extraordinary" facilities as educational resources must not be overlooked.

Another necessary resource for a successful environmental education center is that of trained and interested personnel. It is imperative that the persons responsible for training teachers in environmental education be thoroughly qualified to do

so. It is also as important to have qualified experts available for students, civic clubs, business organizations, and other such groups to consult with. While this role can often be filled by professional or semi-professional volunteers, the process by which people are trained and selected for these positions must not be accidental. The availability of qualified persons must be made widely known. (The environmental speaker lists circulated by several agencies are at present, the only regular source of information about the availability of such persons. These lists are too often out of date and incomplete.) There is no truely statewide system of information about such people as are required to operate an environmental center.

Whether the "center" is a special building or a shared facility; whether it is a single place, or a group of facilities in an area; whether it is staffed by full or part-time professionals or by talented volunteers; each center will require fiscal and program planning and guidance. Those responsible for the operation of each center must be kept aware of the activities, materials, and expertise of the other centers. They must be kept informed about sources of funds and assistance. Only through this kind of mutual access to information and aid can the most effective use be made of the limited resources available in most areas to support an environmental education center.

A very important role which can be played by an environmental education center is that of delivery of environmental information to a larger sector of the citizenry than is normally reached through formal education programs. This role is similar to that played by the Agriculture Extention Service, and by the Continuing Education Programs in the community colleges. Programs and projects aimed at raising the level of general environmental awareness, as well as issue oriented programs are some of the possible kinds of delivery approaches that have been used in this State. Other are: workshops on legal, administrative or procedural problems in environmental decision making; referral service for citizens seeking aid from state and federal

agencies; conducting an impartial public forum, through hearings or discussion groups, for analyzing environmental issues; and, acting as a repository for bibliographies and reference materials in environmental assessment.

The structure and definition of environmental education centers in North Carolina is difficult to perceive. There are loose coalitions of the museums and the gardens. There is an administration linkage between parks and natural areas. The formally designated environmental centers for the development of materials and curricula for kindergarten through twelfth grade are each funded by individual grants. Each center or program is responsible mainly to a local administrative unit for its performance. There is some effort at coordination through the Department of Public Instruction, Division of Science Education, but this effort has been hampered by insufficient funding and personnel. The strongest area of coordination has been that of teacher training, but, as yet, this coordination has not lead to a standardized requirement for environmental education proficiency on a statewide basis.

The areas of materials and curriculum development are those in which the lack of coordination have caused the most grevious inefficiencies. Excellent materials developed by one center have not been made available on a statewide basis as rapidly or as fully as would be possible if there were proper communicative and coordinative channels available. In some cases, teachers have spent a great deal of time and energy seeking ideas and materials to be used in a course, only to discover later that a complete program had been developed in another part of the state that could easily have been adapted to the situation at hand. A means of communication between programs would eliminate these programs.

Another role which a system of environmental education centers should play is in evaluating approaches to environmental education, and materials used in those approaches. There has been a large quantity of material produced in the last few years to be used by classroom teachers in environmental education. Much of this

material is too expensive and requires too high a degree of technical competence to be of use to the average teacher. Much of it simply misses the mark in developing the desired awareness of environmental concepts. There is presently no systematic evaluation of this material and no regular source of judgemental information for the teacher trying to select materials. Evaluation has been limited by a lack of personnel and funding. A network of centers, in conjunction with an expanded evaluative staff, could provide this service.

All of the roles and services listed above as possible ones for environmental education centers are being filled at various places and various times across the state. They are being filled by museums, parks, libraries, colleges, garden associations, elementary and high school personnel, and formally designated environmental centers. These various agencies and institutions have no systematic way of communicating with one another, however. Because there is an increasing demand for environmental education and information services and a relatively fixed set of resources available to meet that demand, we must find a more effective way of using those resources.

Constraints and Limitations

The guidelines established for the use of federal funds in environmental education are fairly straightforward. In every area-formal education, public information, and training of decision-makers - the guidelines discuss the process, theory, content, and aims of environmental education in much the same language. Methodology and objectives must be interdisciplinary and participative. Environmental education must be considered a cummulative process. Programs must be aimed at developing an analytical approach to environmental problems and must be replicable in environmental settings other than that in which developed. Only qualified personnel with skills significantly related to

the objects of the program are to be involved, but volunteers are to be used whenever their skills are available and would enhance the project. Good management principles regarding budgeting, use of resources, determination of responsibility, and evaluation should be employed throughout the program. Finally, there must be some measure of assurance that programs funded by the federal agencies will be eligible for consideration for other sources of support after initial establishment.

State legislation regarding environmental education has, in the past, been more vague than the federal legislation because of the lack of a need for firmly established management and evaluation criteria. Without state funds involved, there was no need to amplify the federal criteria. The Environmental Education Act of 1969 did contain the essentials of criteria, however. The act implies that programs should have as a central focus past misuses of, and future requirements for the use of natural resources. It also defines environmental education in the narrowest sense. That is, as formal education in the elementary and secondary grades. The North Carolina Environmental Policy Acts of 1971 and 1973 broaden that definition by stating as one of the purposes of the acts to: .... encourage an educational program which will create a public awareness of our environment and its related programs.

The phrase "public awareness" is an obvious recognition that environmental education includes more than formal education in the elementary and secondary grades.

Administrative and policy declarations have shown the same transition to a position of comprehensiveness in environmental education. The guidelines under which the Governor's Task Force on Environmental Education has operated state that:

> It must be aimed at the total population and must provide environmental information that can be understood by all, from small children through adults. ...[It Involves] four major areas of activity: (1) program development, (2) agency coordination, (3) information development and dissemination, and, (4) public information

This document also clearly identified the target group to be reached through environmental education as being "the total population of North Carolina."

The North Carolina Council on State Goals and Policy has also specifically shown support for the comprehensive approach to environmental education. In its First Annual Report, under the section on "Learning Opportunities", the Council recommended that:

> ... public schools should offer a broad enough range of subjects, vocational and academic, to equip students for a wide range of economic and social activities in a world growing more complex yet more compact.

Further, in the section on "The Environment", the Council has stated a principal State Goal as:

> Seeking to make our citizens aware of the nature of man's relationship to his environment, gain an appreciation of this relationship, and accept an Environmental Ethic to be practiced in decisions affecting man and his environment.

Gubernatorial statements during recent administrations have generally supported the concept that general environmental awareness on the part of the total population was a requirement for environmental quality.

Both legislative mandates and executive policy, as typified by the above examples, require a broadly based, interdisciplinary, participative, problem centered environmental education program. There is a strong emphasis from the federal government on the use of available resources wherever possible, and on clear assignment of responsibility for further planning and use of developed programs. Also, all levels of government have made statements indicating a requirement that the broadest possible range of the citizenry be involved in planning, organizing, using and evaluating environmental education programs.

Both the fiscal and administrative characteristics of environmental education programs in North Carolina make it highly improbable that the desired traits will be present in the programs. Funds for the programs come from many different sources and are administered by several agencies. While this fragmentation insures that no one interest group will be able to instill a bias on the full range of programs, it also precludes the state's gaining the maximum impact of the programs. If all programs have some central core of objectives which are acceptable to all agencies involved, then a greater degree of effect will result from the combined activities of resources for all programs. But having the same objectives for all programs will still not maximize the effect of the programs. To insure maximization, there must be a close relationship in focus and timing between the programs. Focus means neither emphasis nor content alone, but rather a combination of the two. If several agencies plan to present programs relating to population; for instance, one to discuss growth in terms of demands for services, one to discuss it in terms of pressure on natural systems, and one to discuss it in terms of opportunities for economic growth; then there should be some way for those exposed to all three programs to address similar problems using similar methods. Timing also is a dual term meaning both the absolute, in which the month and day when a program is to begin and end is stated, and the relative, in which the position of a program in a long-range schedule of programs is stated. Presently, there is no function in state government that insures the integration of environmental education programs in terms of focus and timing.

V. Recommendations

For Implementation of This Plan

The Governor, with the assistance of the Department of Public Education, and the Board of Governors of the University of North Carolina, should undertake to establish a permanent planning structure for environmental information and education, with continuity of purpose and philosophy from the level of state government to the level of the local school board. An attempt should be made to make this structure participative and cooperative, and free from coercion and prejudice. While operating in compliance with existing laws, the statewide structure should meet the following criteria of a planning process and organization:

The Plan as a Dynamic Concept

Planning for environmental education must be thought of as a continuing process. Part of this process is cyclical over the short run, such as that part directly linked to the budget/appropriation cycle at both state and federal levels. Part of the process covers a longer time span, but is still cyclical in nature. This is that part which deals with assessing current needs and attitudes so as to determine the success of environmental education in meeting its stated and implied goals and objectives. The evaluation of the State Plan and of subordinate plans must not be linked solely to either the long or short cycle, but must include a perspective of both.

The planning organization must, therefore, be established so as to maximize continuity in both structure and funding.

The State Master Plan must concern itself with setting broad policy guidelines, with establishing a mechanism for cooperation and coordination between all interested parties, and for assigning the responsibility for detailed planning to the lowest possible administrative level.

The process must be conceived as one that promotes a continuous inventory and evaluation of educational and informational efforts, and the alteration of initial plans in light of current experience and desires.

The Central State Organization

The central state organization should have several responsibilities which are unique to it and others which it shares with other parts of the total state environmental education system. The principal responsibility which falls solely to the central organization is that of setting broad policy for environmental education and information programs in the state. The central organization should monitor and analyze state planning in all areas which have impact on overall environmental goals and objectives in the state, so as to determine the educational and informational requirements of that planning. The central organization should act as the framework on which interagency coordination and cooperation in the production and dissemination of environmental information and educational material can be built. It should provide liaison between state and non-state organizations and agencies in the identification of environmental educational and informational needs, and the resources necessary to meet those needs. The central organization should have the responsibility of assessing the state plan in light of changing needs, objectives, and resource availability. Also the central organization must evaluate all subordinate plans to determine their compliance with the guidelines established in the state plan.

There is one area in which responsibility falls uniquely to the central organization. This is the area of financial accountability for certain funds. The organization should have responsibility for special appropriations and grants for environmental education; to determine the allocation of those funds among competing programs and projects; and, evaluate those programs and projects

which receive funds as to their success in reaching planned objectives. The structure of the organization must also be one that allows sufficient flexibility in both managerial and policy making functions, while keeping the central organization to an efficient size. Such a structure is possible through making the central organization two bodies with a common support staff, but with different functions. One body should be a board with members drawn from those public and private agencies, institutions and organizations with a direct interest in environmental education and the dissemination of environmental information. This board would:

1) Review existing programs and projects in environmental education
2) Review assignments of subordinate planning responsibilities made by this master plan
3) Consider the capabilities of state, regional, county and local resources not currently supporting environmental education activities to be so used
4) Act as liaison between governmental and non-governmental agencies and organizations with an interest in environmental education and information dissemination

The second body would be a panel for the fiscal management of funds not part of the appropriations or grants made to any other state agency and specifically intended for education programs and projects with an environmental or conservation focus. Specifically, this body would:

1) Assess the allocation and amount of financial resources committed to environmental education and information dissemination and make recommendations as to how these resources should be increased or reallocated.
2) Consider the most effective way of using existing facilities, both public and private, as regional centers for the dissemination of

environmental information and educational materials and programs

3) Seek out new sources of funds for environmental education in this state.

4) Evaluate proposals for the use of specially appropriated state funds in environmental education.

5) Review the success of funded programs.

These two bodies would together be an Environmental Education Advisory Council. They would share a support staff and meet jointly only on those occasions as which decisions were to be made that affected both policy and managerial functions; such as the determination of guidelines to be used in judging funding proposals, or the approval of annual reports to the General Assembly and the Governor as set forth below in this plan.

A Network for Statewide Contact

A central organization cannot properly discharge its duties without having some kind of avenue for statewide contact and exchange with organizations, institutions, and individuals with a need for and an interest in environmental education. An environmental information and education network in North Carolina would serve several purposes. It would provide representative private and public input to the central organization to assist that body in determining goals and policies for statewide environmental education within both planning and implementation processes. It would provide a mechanism for statewide communication and for the coordination of environmental education and information programs and projects at several administrative levels. The latter is particularly important when such programs and projects involve state agencies and regional and local organizations and institutions. A statewide network will also provide a means of assessing current

environmental education and information needs and attitudes at the local level. The network could also provide citizen inputs to state agencies with environmental concerns outside the area of education and information if this is desired.

Such a network would consist of several committees, composed of individuals representing civic, governmental, educational, commercial, and industrial interests. These committees will serve to bring individuals together at several levels for the purposes of:

1) Identifying available resources in environmental education
2) Identifying local environmental problems
3) Assessing public attitudes toward environmental quality
4) Assessing information needs of different groups
5) Assessing environmental education needs
6) Informing each other of existing or planned programs
7) Determining methods of applying available instructional and informational resources to needs
8) Communicating all of the above throughout the network and to the Central State Organization
9) Helping conduct informational programs, and plan programs and/or facilities relative to environmental education and information (e.g. Regional Environmental Centers)

Each component of the statewide network should be made up of a voluntary membership with close ties to local and county organizations, institutions, and interest groups. Each component should be formalized in structure to the degree necessary to insure that there will be some group responsible for maintaining current and accurate mailing lists, and for assisting in the analysis and evaluation of local needs, attitudes, programs, and projects associated with environmental education and information. Both the Central State Organization and the

Statewide Network should be established within one year after publication of the State General Master Plan for Environmental Education.

Training Environmental Scientists and Technicians

The Board of Governors of the University of North Carolina and the Department of Community Colleges, together with the statewide planning organization as outlined above, should establish an investigative and planning body aimed at a better understanding of the needs for professional, paraprofessional, and supportive occupational roles and functions in the environmental sciences and technologies at all operational levels within the state. This body should have as a basic premise that environmental quality requires the attention of the social, behavioral, and administrative sciences as well as the life and physical sciences. This body should devise programs to train the personnel required to seek out and apply existing knowledge about the relationships among environmental factors and the interaction of those factors with man, and to develop new knowledge where needed. While recognizing the particular need for research and application in areas directly related to medicine, health, and environmental quality, the programs in the colleges, universities, and technical institutes should strive to more clearly define environmental problems, find their causes, and seek solutions which include remedies for the social and personal losses resulting from damage to our recreational, economic, physical, and mental environments resulting from pollution in its many forms.

The investigative and planning body outlined above should be established within one year of the publication of the State Master Plan, and their initial plan for meeting the objectives set forth here should be presented to the Central State Organization for delivery to the Governor within two years of the publication of the State General Master Plan.

Pre-service and In-service Teacher Training

The Department of Public Instruction and the Board of Governors of the University of North Carolina should jointly establish a body to make studies and submit recommendations pursuant to the following:

1) The most effective way to changing present certification requirements of primary and intermediate teachers to include instruction in the environment and natural resources.
2) The most effective way of changing certification requirements for secondary teachers to include interdisciplinary courses in environmental quality and management.
3) The most effective way to provide every teacher in the state with a sufficient interdisciplinary background to allow each teacher to include an environmental perspective in every course taught.

An interdisciplinary course would, for example, include concepts from the natural sciences, physical sciences, earth sciences, fine arts, social sciences and professional education. Such a course of study should be taught by a team of specialists who plan and provide instruction as one cohesive unit, and, where possible, resources from the general community outside the formal school structure are used as adjuncts to the regular material, laboratories and study areas used.

Training in environmental concepts should be made readily available to all teachers on a continuing basis. The joint planning body described above should seek the assistance of the Central State Organization in planning and conducting local and regional workshops, university and college extention courses, educational television programs, and special institutes and seminars aimed at providing teachers with interdisciplinary environmental training.

The joint planning body should be established as soon as possible after the publication of the State Master Plan. One year from the date of its establishment, the joint planning body should submit to the Central State Organization a proposed

plan for providing pre-service training for elementary, and secondary level teachers to meet the criteria outlined above. Within two years after the publication of this plan, the joint planning body will submit to the Central State Organization, a proposed plan for encouraging, and assisting in the development of, environmental education inservice programs for each of the school systems in the state. Within four years after the publication of the State Master Plan, the joint planning body should have developed and staffed a system to carry out the elements of the plans which it has developed. In planning and providing pre-service and in-service training in environmental concepts for teachers, the joint body should, wherever possible, seek out and use the resources of other governmental agencies, business and industry, and other public and private institutions, regardless of whether or not those resources are traditionally thought of as being educational in nature.

Public Education, Grades K-12

Not all of the materials available for environmental education are suitable or necessary for a successful approach to the problem. Also, much material is presently available at little or not cost that can be successfully used at many levels of education. Information regarding the availability of such materials, or as to the quality of all such materials is not readily available to teachers, administrators or school boards. To meet this need, a "clearing house" should be established in the State Department of Public Instruction to assess and disseminate information regarding environmental education materials for the use of teachers and students in grades K-12. This office should be responsible for seeking out successful environmental education programs that can be replicated, on demand, in various parts of the state. This "clearing house" should be provided with funds and personnel sufficient to insure that it can operate wholly in the area of environmental education and not as auxiliaries to, or additional staff for, other

functions of the Department. This office should act as part of the support staff for the Central State Organization in handling any matters relating to grades K-12. To meet the growing demand for environmental education programs at the county and local level, the Department should establish a special interdisciplinary unit, made up of members of the Department's own professional staff, to examine how best to develop programs which will meet the objectives stated above for grades K-12. The Department should also seek the assistance of those Federal and State agencies, private and public organizations, and interested individuals who can help make available to local school units the non-traditional educational resources which can greatly augment the environmental education resources of the local units. The possibilities of using student interns, professional environmental scientists and engineers, and experienced naturalists as "adjunct teachers" should be explored. The State Network as outlined above should be asked to provide substantial assistance in these tasks.

The "clearing house" and the special interdisciplinary unit could be established as one group performing all functions, but one set of functions should not take precedence over the other set.

The "clearing house" should be established immediately upon the publication of the State Master Plan. The special interdisciplinary unit should be established within six months of the publication of the State Master Plan; and should, within one year of the publication of that plan, submit to the Superintendent of Public Instruction and the Central State Organization, a plan for meeting the responsibilities of the Department of Public Instruction for developing local and regional environmental education programs to fulfill the goals established above for grades K-12.

Public Information and Agency Coordination

There has been an "explosion" of environmental information and educational materials for decision-makers in recent years. There has also been a burgeoning

of demand for this material from local and county elected and appointed officials, as well as State officials. There has been little in the way of coordinated efforts in quality control of materials, or in improving the delivery mechanisms. A "clearing house" for information and training materials relating to environmental matters should be established in one of the State agencies whose activities relate directly to environmental policy and quality. The "clearing house" should be placed high enough in the administrative structure of the State to have credibility with other agencies and with the diverse groups which make up the environmentally interested population of the state. The purpose of this office would be, generally, to keep track of what kinds of environmental information and expertise are available in state government, and how interested parties gain access to that information and expertise. The office would act with the assistance of the statewide network, as a referral service for all suppliers of environmental information in the state who wished to cooperate. It should act in that capacity for all agencies of state government.

The "clearing house" office as outlined in this section should be established as soon as possible, and should be provided with funds and personnel sufficient to insure that it can operate wholly in the areas of environmental information, education, and beautification, and not as auxiliaries to, or additional staff for, other functions of the department in which it is housed. Within one year of its establishment, the staff of the "clearing house" should submit to the Secretary of the department in which they are housed, a plan of work stating how they intend to carry out their duties.

Centers, Study Area, and Laboratories

While there are a number of facilities, presently available and planned for the near future, that can well serve as environmental study area, there is no clearly defined effort being made to catalogue these facilities, or to determine how they

best could be used in disseminating information, or as augmenting resources for formal education institutions. In some areas, such as the marine sciences, there is a well organized effort to carry out the task of categorization and planning for use of known and planned facilities. To meet a growing demand for environmental information and training for public officials and technicians; a rapidly increasing desire for environmental education in the classrooms; and a general desire for better access to environmentally relevant formal and informal education; broad planning is needed to insure the best use of those facilities that can be effectively used as regional, and local environmental information and education centers.

The State Departments of Administration, Agriculture, Natural and Economic Resources, Public Education, and Cultural Resources; together with the Board of Governors of the University of North Carolina, and the North Carolina Museums Council, should jointly establish an investigative and planning body to search out how best to provide regional and local environmental information and education centers, and a state environmental information and education center which would offer the following services:

Regional and Local Centers

1) Provide an open forum for the study and discussion of environmental affairs of concern to the locality
2) Provide a library of environmental films, tape-slide programs, and similar materials not normally available elsewhere
3) Act as a referral station for inquiries regarding environmental information and education programs and resources in the area
4) Provide space and limited personnel for workshops on legal, administrative or procedural problems in environmental decision making.
5) Provide space, limited personnel, and a repository of materials for inservice teacher training and the development and implementation of environmental education programs in the area of school systems, as planned

by the Department of Public Instruction and/or the school systems' administration

6) Provide the Department of Public Instruction and area Community Colleges with some assistance in evaluating environmental education plans and programs developed for that area.

It is strongly recommended that existing facilities, such as the Regional Education Service Centers of the Department of Public Instruction, local and regional museums and gardens, established nature study areas, and special environmental education centers be utilized in developing these information and education centers. The joint study group on information and education centers should utilize the State Network in developing a catalogue of resources and in planning for the use of those resources.

State Center

1) Provide space and limited personnel for making and storing special exhibit materials to use at the regional and local centers on a rotating basis
2) Provide storage for special equipment, and educational materials, which, because of expense or frequency of use, could most efficiently be used on a joint basis by all the regional and local centers
3) Provide space and limited personnel for training the staffs of the other centers in special areas.

Here again the use of existing facilities should be thoroughly explored. All resources, both publically and privately owned, should be examined for their potential as environmental information and education centers.

The joint study group on environmental information and education centers should be established immediately upon the publication of this plan. Within one year of the publication of the State Master Plan, this joint study group should

submit to the Central State Organization, a plan for establishing a state environmental education center as outlined above. Within three years of the publication of the State Master Plan, the joint study group should submit to the Central State Organization a plan for establishing an environmental education and information center in each of the eight educational districts of the state.

Finances

While the emphasis of this plan is on finding ways to make the most efficient use of existing resources, some attention must be given to the short-run needs for additional funds specifically directed at Environmental Education.

Four areas must receive priority in the short-run:

1) In-service teacher training
2) Acquisition and circulation of materials needed for classroom, field study, and workshop use.
3) Developing resource centers to house materials circulating on a regional basis only, and to act as a focal point of local program development in each region.
4) Development and extentions of local programs which show promise for replication throughout the state.

The state has 152 independent school administrative units. An attempt should be made to develop a cadre of teachers in each unit that are qualified and experienced in using environmental education materials. This can be accomplished through a series of eight workshops held in different parts of the state. Four workshops should be held the first year after funds are available, and four the following year. It will cost approximately $100 per teacher to conduct the type of workshops necessary. To reach an average of two teachers in each administrative unit, a budget of $30,400 will be necessary. In addition to that amount, personnel and travel costs of approximately $10,500 should be anticipated. It is recommended that the Departments of

Administration and Public Instruction seek ways to fund these workshops within two years after implementation of this plan. A budget of $40,000 should be established, with proper increases to reflect escalated costs if implementation is delayed for more than one year.

Although much good environmental education material has been developed in North Carolina, distribution and circulation problems have often led to organizers of local programs going outside of the state for materials, sometimes at a much higher cost than necessary. North Carolina presently has the basis for reducing the incidence of such problems. There are now three Regional Education Centers in operation in the state. If funds are made available to establish the core of six more such centers, based initially on environmental education materials, there would be an effective network to house materials which are not suitable for circulation, and to assist in the circulation of materials which are circulated. The State Library System must be an integral part of such a network, and would serve as an effective structure on which to develop. It will require approximately $30,000 to acquire a basic collection of circulating materials (films, slides, etc.) and to maintain these for two years. It will cost approximately $10,000 to establish a basic collection of non-circulating material at a center. The three existing Regional Centers should be augmented by three additional center-type operations for maximum effectiveness in covering the diverse area of the state. This indicates a total budget of approximately $60,00 for resource center development. This should be sought by the Departments of Administration and Cultural Resources.

A combination of state and federal funds have helped to establish more than fifty active environmental education programs at schools, museums, parks, and libraries in the state. An effective implementation of environmental education on a broad scale will require that a basic program be establish in each of the 152 independent school units in the state. Based on previous experience, this will

require an outlay of approximately $5,000 per program, for a total of $500,000. Obviously, the state should not bear the complete burden for establishing the 100 new programs. It is recommended that the Departments of Administration and Public Instruction seek $100,000 to be distributed as grants to help in the establishment of local programs.

These funds represent only a beginning effort. If the objectives of this plan are to be met, a substantial amount of money must be allocated for environmental education in the local schools, parks, museums, and other institutions. The state can only be responsible for a portion of this. It is strongly recommended that local school boards and other organizations examine the potential for sponsoring the development of environmental education as a part of the life experience of every person in every community throughout the state.

APPENDIX A

DOCUMENTS USED IN PREPARING THIS PLAN

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A STATE
GENERAL MASTER PLAN
FOR
DEVELOPING ENVIRONMENTAL EDUCATION
PROGRAMS
IN
NORTH CAROLINA

SUPPLEMENTS

The Governor's Task Force
on
Environmental Education

Raleigh, North Carolina
March, 1974

SE 017 926

This Plan was produced by the Governor's Task Force on Environmental Education supported by the staff of the North Carolina Environmental Education and Outdoor Beautification Programs under Grant Number OEG-0-72-5041 of the Office of Environmental Education, United States Department of Health, Education, and Welfare.

Raleigh, North Carolina

March, 1974

North Carolina Department of Administration
William L. Bondurant, Secretary

North Carolina Environmental Education
and Outdoor Beautification Programs
Thomas B. Baines, Director

These materials are intended to be used in conjunction with the State General Master Plan for Environmental Education in North Carolina.

Supplement A is a programmed implementation program which will assure that the various constituent parts of the plan are completed in a coordinated manner.

Supplement B is a list of some agencies and institutions that can give assistance to persons involved in developing Environmental Education programs in North Carolina.

SUPPLEMENT A

Implementation Mechanism

The Process

The most difficult task facing the administrator of a social or educational program is that of insuring that the short run objectives which are essential to the success of his program are being completed on time and with an acceptable degree of compliance with overall goals. This section should help those responsible for environmental education in North Carolina to accomplish the tasks of developing and implementing plans subordinate to this State General Master Plan, and simultaneously establishing criteria which can be used in "tracking" the development of a statewide approach to environmental education.

The process used here is a combination of a Management By Objectives model and A Process/Product Evaluations model. MBO is highly effective in identifying necessary support activities and assigning tasks required to reach desired long-term objectives. The technique requires a greater specificity of detail regarding resources than is available in this case, however. PPE has many advantages in developing criteria to be used in relating outcomes to the processes which produce them, and in determining how well intermediate processes are functioning in support of long range goals. To be totally effective, however, PPE requires a fairly board agreement among actors as to the nature of desired outcomes - behavioral changes, values changes, standards met, etc. This agreement is not well established in environmental education in North Carolina at this time. A simplified blending of the two techniques is, however, capable of producing effective general criteria for tracking while helping insure the orderly implementation of the plan.

Agency Responsibilities

In order for the technique to be effective, it is necessary for all agencies involved to follow the general guidelines established in the body of the State General Master Plan. Further, each agency responsible for the development of a subordinate plan should make sure that the following tenets are adhered to:

1) In all tasks requiring the collection of data, survey of facilities, etc., all agencies should make use of the Statewide Network, the Clearing House for Public Information and Agency Coordination, and the Clearing House for the State Department of Public Instruction wherever possible.
2) Each subordinate plan should include a proposed budget programmed to show the probable fiscal requirements for each phase of the plan.
3) Each set of criteria for evaluation of a plan should include the budget totals required for the implementation of the plan. Also certain areas of responsibility for performance of the plan are the responsibility of particular groups of agencies. In meeting these responsibilities,
    1) The Central State Organization should:
        a. Review State Plan in light of new Federal guidelines, State laws, Executive Orders
        b. With assistance of the Statewide Network, assess relevance overtime of stated goals and objectives
        c. Prepare recommendations for consideration by the Governor and the General Assembly when major changes in policy or organization are required to maximise the effectiveness of E/E
        d. Through appropriate sub-committees and with the assistance of all interested parties, review subordinate plans to determine their compliance to the State General Master Plan and the criteria developed by responsible agencies.
    2) Department of Public Education should:
        a. Review local and county plans and programs in public instruction, adult education, and pre-professional and technical training

for:

1. Number of programs undertaken
2. Compliance with this plan
3. Use of available resources
4. Participative characteristics
5. Degree to which total community was involved
6. Degree of success in meeting planned objectives

b. Assess all plans orginating within the department for their relevancy to state environmental problems, priorities and timing of environmental solutions as established by other State Plans.

3) The Statewide Network should:

a. Continually examine membership and organization to insure maximum feasible representation of all interest groups, geographical regions and political applications

b. Assist the Central State Organization, and any other State, regional, county or local agency that requests aid, in evaluating E/E plans, planning procedures, or planning organizations at every level

4) All State Agencies should:

a. Review and closely examine policies and programs of information flow so as to insure ease of access to environmental information for decision makers at all levels

b. Support and actively engage in efforts to determine the most effective ways of informing the public at large as to the information surrounding all environmental issues

A Program for Implementation and Criteria Development

The programming of the State General Master Plan starts with an overview of what must be accomplished and how long a time can be assigned for its accomplishment. The General Program shows the development of a statewide approach to environmental education in three ways - 1) a planning cycle for developing plans and programs together with a mechanism for evaluation and revision; 2) channels of delivery for environmental education and information; 3) a means of insuring inter-agency exchange in the development of both of the above.

The General Program shows the relative amounts of time involved in the completion of each phase of implementation, and the actors directly involved in each phase.

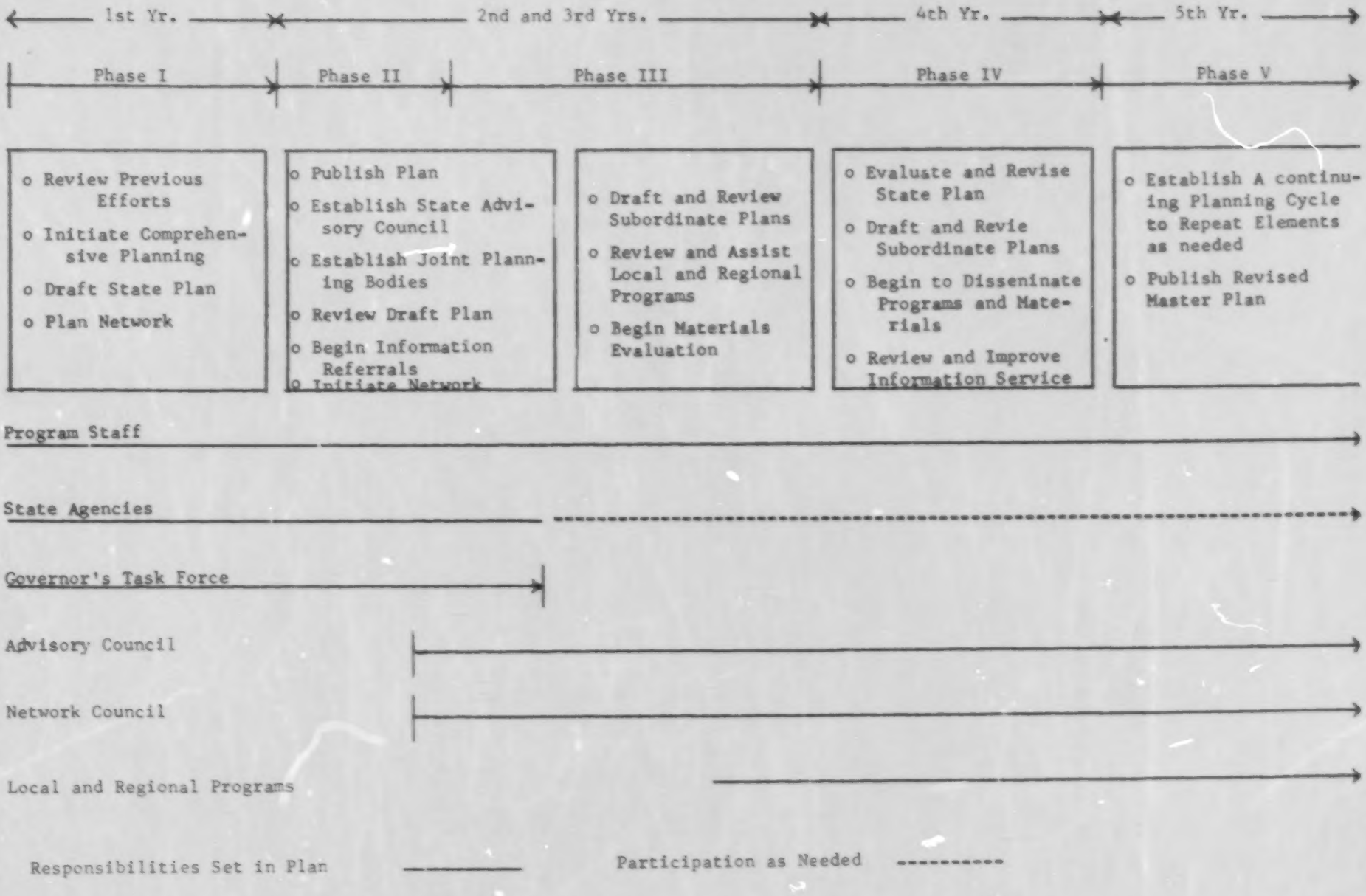
The next step in the programming of the plan in a more specific breakdown of tasks into sub-tasks and completion times. Because the exact date of the Governor's announcement of the plan is not know, specific dates cannot be assigned to tasks. That is the reason for setting the program up in terms of "T" times which commence with the announcement of the plan.

To find the tasks for which a certain agency are responsible, one should find the abbreviation for that agency in the lists of abbreviations, look down the column headed "Responsible Agency" on the "Outcomes" schedule, and note which tasks are assigned to the agency of interest. To find which tasks are due for completion at any T period, one should find that T period on the "Process" schedule, and determine the tasks due to be finished at that time. To make best use of these schedules, users should follow the instructions on the schedules for putting exact dates in place of "T" times as soon as the Governor has initiated implementation of this plan.

AGENCIES RESPONSIBLE FOR SUBORDINATE PLANS

AGENCY	AREA OF CONCERN	APPOINTING AND REVIEW AUTHORITY
State E/E Advisory Council	Master Planning, coordination, review of subordinate plans	The Governor of North Carolina
Statewide Network for Environmental Education and Information	Assistance to State E/E Advisory Council and review of all plans in terms of local and regional needs	The Governor and The State Advisory Council on E/E
Clearing House for Public Information and Agency Coordination	General Awareness Programs, Beautification Programs, Environmental Information Referral Service	The Governor, The State E/E Advisory Council, The Statewide Network
Clearing House of Public Instruction in E/E; and the Special Inter-Disciplinary Unit for Environmental Programs, Grades K-12	Curriculum, development, materials review, program assistance	The State Department of Public Instruction
Joint Planning Body on Teacher Training	Preservice and inservice training programs criteria, and teacher certification	The State Department of Public Instruction, The Board of Governors of the University of North Carolina
Joint Planning Body on Training Environmental Scientists and Technicians	Professional and Para-professional programs	The Board of Governors of the University of North Carolina, The State Department of Community Colleges
Joint Planning Body on Centers, Study Areas, and Laboratories	Review of Sites, criteria for planning and development of E/E Centers at State, Local, and Regional Levels	The State Departments of: Administration; Agriculture; Art, Culture, and History; Natural and Economic Resources; and, Public Education; the Board of Governors of the University of North Carolina; and the North Carolina Museums Council

GENERAL PROGRAMMING for IMPLEMENTATION and EVALUATION



STATE GENERAL MASTER PLAN

IMPLEMENTATION PROGRAMMING

Time Index

T_0 = Governor's Announcement of SGMP to public

$T_1 = T_0 + 1$ month
$T_2 = T_0 + 2$ months
$T_3 = T_0 + 3$ months
$T_4 = T_0 + 4$ months
$T_5 = T_0 + 5$ months
$T_6 = T_0 + 7$ months
$T_7 = T_0 + 8$ months
$T_8 = T_0 + 10$ months
$T_9 = T_0 + 13$ months
$T_{10} = T_0 + 18$ months
$T_{11} = T_0 + 22$ months
$T_{12} = T_0 + 24$ months
$T_{13} = T_0 + 30$ months
$T_{14} = T_0 + 36$ months
$T_{15} = T_0 + 48$ months
$T_{16} = T_0 + 60$ months

Symbols

BE = State Board of Education

BGU = Board of Governors, University of North Carolina

CH-DPI = Clearning House, SDPI

CH-PIAC = Clearing House, Public Information and Agency Coordination

GOV = The Governor

JPB-CSL = Joint Planning Body for E/E Centers, Study Areas, and Laboratories

JPB-ST = Joint Planning Body on Training Environmental Scientists and Technicians

JPB-TT = Joint Planning Body on Teacher Training

SAC = State E/E Advisory Council

SDCC = State Department of Community Colleges

SDPI = State Department of Public Instruction

SGMP = State General Master Plan for E/E

SIU = Special Interdisciplinary Unit, SDPI

SN = Statewide Network

I. Phase I Objectives

A. By T_0 the Governor's Task Force on E/E will have submitted a final plan.

B. By T_0 the Governor will have been given time to review the final plan.

C. GOV will announce the availability and implementation of the plan at T_0

II. Phase II Objectives

A. By T_1 Task Force on E/E should publish SCMP

B. By T_2 GOV should establish SAC

C. By T_5 SAC should establish SN

D. By T_7 SAC should insure that JPB-CSL and JPB-ST are established

E. By T_3 GOV., SAC., and SDPI will establish CH-DPI and CH-PIAC

F. By T_3 SDPI will establish SIU

Phase II Stategies

A.1 GOV announces SCMP at T_0

A.2 Department of Administration makes Copies available

B.1 By T_1 GOV consults with the State Departments of Natural and Economic Resources, Agriculture, Human Resources, Administration; the Board of Education; and the Board of Governors, UNC

B.1.1 GOV sets date of meeting

B.1.2 Criteria for SAC established by GOV

B.1.3 Notices sent to agencies noted in B.1

B.1.4 Recommendations for SAC submitted by agencies

B.1.5 Recommended persons contacted by agencies

B.1.6 Meeting held

B.2 By T_2 GOV announces SAC

B.2.1 Final recommendations submitted

B.2.2 SAC announced by GOV

C.1 By T_4 SAC completes list of possible SN components

C.1.1 SAC determine SN Criteria based on SCMP

C.1.2 SAC determine feasibility of implementing Phase I SN Plan

C.2 By T_5 SAC either implements Phase I SN plan or implements an alternative plan

D.1 By T_6 SAC confers with agencies involved in establishing JPB-CSL, JP-ST, and JPB-TT to determine membership

D.2 By T_7 SAC announces establishment of JPB's

E.1 By T_3 SDPI will establish CH-DPI

E.2 By T_3 GOV will establish CH-PIAC

E.2.1 GOV contact Secretary of Administration by T_1 to begin search for a Department to house CH-PIAC

E.2.2 Secretary of Administration reports most favorable alternative to GOV

E.2.3. GOV establishes CH-PIAC

III. Phase III Objectives

A. By T_9 JPB-TT submit plan for pre-service training to SAC

B. By T_9 SIU submit plan for developing local and regional programs to SDPI

C. By T_9 CH-PIAC submit plan of work to Secretary of Department of housing CH-PIAC

D. By T_9 CH-DPI submit plan of work to SDPI

E. By T_9 JPB-CSL submit plan for State E/E Center to SAC

F. By T_9 SAC begins review of subordinate plans

Phase III Stategies

A.1 By T_8 JPB-TT will establish criteria for pre-service training programs and will submit criteria for evaluating plan for pre-service training to SAC, BCU, and SDPI

A.2 By T_9 JPB-TT submits plan for pre-service teacher training to SAC, BCU, and SDPI

B.1 By T_5 SIU will establish criteria for development of local and regional E/E programs

B.2 By T_9 SIU will submit plan for developing local and regional E/E programs

C.1 By T_5 CH-PIAC establishes information referral service

C.1.1 By T_4 CH-PIAC will review experiences of support staff to GOV Task Force on E/E and GOV Outdoor Beautification Program to determine kinds and numbers of requests for information to expect

C.1.2 By T_5 CH-PIAC staff will contact all information sources used by GOV Task Force on E/E to insure that sources are valid

C.1.3 At T_5 the Secretary of the Department Housing CH-PIAC will announce the information referral service

C.2 By T_7 CH-PIAC will draft a plan of work

C.2.1 By T_5 CH-PIAC will begin analysis of expected requests to determine best organization and process for agency coordination in the delivery of environmental information

C.2.2 By T_6 CH-PIAC will begin drafting a plan of work

C.2.3 By T_7 CH-PIAC will submit draft to Secretary of Department housing CH-PIAC. Also submit a list of criteria to be used by SAC in evaluating plan of work

C.3 By T_8 Secretary of Department housing CH-PIAC will return the draft plan to CH-PIAC with corrections and changes indicated

C.4 By T_9 CH-PIAC will submit final plan of work

D.1 By T_5 CH-DPI will begin review of E/E materials, and submit criteria for review of CH-DPI plan of work to SDPI

D.3 By T_9 CH-DPI submits plan of work to SDPI

D.3.1 By T_5 CH-DPI begins analysis of expected service demands

D.3.2 By T_6 CH-DPI will submit a draft plan of work to SDPI

D.3.3 By T_7 SDPI will return draft plan of work to CH-DPI indicating recommended changes

D.3.4 By T_9 CH-DPI will submit final plan of work

E.1 By T_5 JPB-CSL will begin inventory of possible sites for a State E/E center based on criteria of V-13, SCMP

E.2 By T_7 JPB-CSL will begin preparation of a plan for a State E/E Center, and submit to SAC a list of criteria on which the plan is to be evaluated

E.3 By T_9 JPB-CSL will submit a plan for a State E/E Center

F.1 By T_8 SAC will receive from each agency responsible for developing a subordinate plan, a list of criteria on which that agency's plan is to be evaluated. SAC will begin to compare these with the areal criteria established in the SCMP

F.2 By T_9 SAC will have begun evaluation of subordinate plans based on criteria submitted by planning agencies

IV. Phase IV Objectives

A. By T_{14} a routine for evaluation of plan subordinate to SCMP will have been established by SAC

B. By T_{14} a routine for evaluation and revision of SCMP will have been established by SAC and SN

C. By T_{14} each agency charged by SCMP with tasks involving the planning or delivery of E/E materials or programs should have established a routine for performing those tasks.

D. By T_{12} JPB-ST will submit its plan to SAC for transmittal to GOV, BCU, and SDCC

E. By T_{12} JPB-TT will submit its plan for inservice teacher training to SAC for transmittal to SDPI, SDCC, BCU

F. By T_{13} JPB-CSL will submit a plan for developing local and regional E/E centers to SAC

Phase IV Stategies

A.1 By T_{13} SAC will establish a time table for evaluation of all subordinate plans

A.1.1 By T_{11} SAC will confer with each agency responsible for a subordinate plan to determine the most favorable planning cycle for that agency

A.1.2 By T_{12} SAC will supply each agency responsible for the preparation of subordinate plans with a proposed time table for evaluation of plans in each area of concern as established in the RECOMMENDATIONS section of SGMP

A.1.3 By T_{13} SAC will publish a time table for evaluation of all subordinate plans incorporating revisions submitted by the responsible agencies

A.2 By T_{14} SAC will have initiated evaluation of subordinate plans based on the evaluations time table and the criteria submitted by responsible agencies

B.1 By T_{12} SAC and SN will determine a schedule for review of the SGMP in terms of local and regional needs

B.1.1 By T_9 SN will have compiled lists of local and regional needs and goals for E/E not being met by existing programs

B.1.2 By T_{10} SN will begin comparing the plans and programs resulting from the SGMP with the lists of local and regional needs and goals

B.1.3 By T_{12} SN will have begun presenting SAC with suggestions for revising SGMP and subordinate plans so as to better address local and regional needs and goals

B.1.4 B T_{12} SAC will have established a routine for transferring SN feedback to agencies responsible for subordinate planning

B.2 By T_{14} SAC and SN will have established a routine for revising the SGMP to conform with feedback from SN. Suggestions for revision should be related to each of the areas of concern established in Section V of SGMP

C.1 By T_{12} each agency responsible for a subordinate plan will have established a routine for revising its plan to conform with SN feedback

C.2 By T_{14} each agency responsible for a subordinate plan will submit to SAC an outline of the process by which its plan will be revised

D.1 By T_8 JPB-ST will request SN to compile a list of needs for environmental scientists and technicians in North Carolina. SN should work with the lead organizations in the 17 multi-county planning regions in developing this list

D.2 By T_9 JPB-ST will begin a survey of resources available to meet the needs for environmental scientists and technicians

D.3 By T_{12} JPB-ST will submit its plan to SAC for transmittal to GOV, BGU, and SDCC

F.1 By T_9 JPB-CSL will begin to examine all subordinate plans for possible roles for local and regional centers and possible sites for centers

F.2 By T_{10} JPB-CSL will submit a SAC a catalogue of possible sites for centers and a list of role for those centers

F.3 By T_{12} JPB-CSL will submit to SAC its plan for local and regional centers for transmittal to all agencies concerned.

V. Phase V Objectives

A. By T_{15} all agencies should have established a continuing planning process for E/E

B. By T_{16} SAC should publish a revised SCMP entailing the commulative experience of T_0 through T_{15}. The revised plan should contain guidelines and schedules for a continuing cycle of planning and review in all area of concern.

Phase V Stategies

A.1 By T_{15} every agency responsible for planning for E/E should have examined its experience in planning to determine how its planning

process can best be scheduled on a quarterly, yearly, and biennial basis.

A.2 By T_{15} every agency responsible for a subordinate plan should supply SAC with a schedule for planning and review in its area of concern

B.1 By T_{15} SAC should have begun a revision of SGMP incorporating feedback from SN, and the agencies responsible for subordinate plans.

B.2 By T_{16} SAC should publish a revised SGMP

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN | PROCESS EVALUATION PROGRAM | X = EVALUATION o = DUE

T_0 = _____

T_0 is the date on which the Governor announces implementation of this plan. Users should place that date in the space above, then complete the insertion of dates in the Sequence/Date blocks below as indicated by the Time Index on Page 7 of this plan.

BEST COPY AVAILABLE

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

PROCESS EVALUATION PROGRAM

X = EVALUATION

o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date	Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
II. A. SCMP Published		GOV															
II. A.1 SCMP Announced																	
II. A.2 Copies of SCMP Made Available		DoAdmin.															
II. B. SAC Established		GOV	o														
II. B.1 Consultation with DNER, DoAg. DoHuR, DoAd, BE, BCU																	
B.1.1 Date Set		GOV															
B.1.2 Criteria for SAC set		GOV															
B.1.3 Notices sent to agencies noted in II. B.1		GOV															
B.1.4 Recommendations for SAC submitted		Agencies															
B.1.5 Recommended persons contacted		Agencies															
B.1.6 Meeting Held		GOV															
II. C. SN Established		SAC					o										
II. C.1 Possible SN Components listed		SAC				o											
C.1.1 SN criteria established																	
C.1.2 Feasibility of implementing Phase I SN determined							o										
II. C.2 Phase I SN Implemented or Alternative Established							o										

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

PROCESS EVALUATION PROGRAM

X = EVALUATION
o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date	Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}	T_{16}
II. D. JPB-CSL, JPB-ST, and JPB-TT Established		SAC							o									
II. D.1 Conference with Agencies involved in JPB's		SAC						o										
II. D.2 JPB's Announced		SAC							o									
II. E. CH-DPI and CH-PIAC Established		GOV,SAC,SDPI			o													
II. E.1 CH-DPI Established		SDPI																
II. E.2 CH-PIAC Established		GOV																
E.2.1 Search for a Dept. to house CH-PIAC		GOV, DoAd.	o															
E.2.2 Most favorable place for CH-PIAC selected		DoAd.		o														
E.2.3 CH-PIAC Established		GOV			o													
II. F. SIU Established		SDPI			o													
III. A. Plan for Pre-Service Teacher Training Submitted		JPB-TT									o							
III. A.1 Criteria for pre-service training set and criteria for evaluating plan sent to SAC,BGU,SDPI		JPB-TT								o								
III. A.2 Plan for pre-service training submitted		JPB-TT									o							

PROCESS EVALUATION PROGRAM

X = EVALUATION

o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date / Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}
III. B. Plan for developing local and regional programs submitted to SDPI	SIU									o	
III. B.1 Criteria for developing Local and regional E/E programs set	SIU					o					
III. B.2 Plan for developing local and regional E/E programs submitted										o	
III. C. CH-PIAC Plan of Work Submitted										o	
III. C.1 Information service established						o					
C.1.1 CH-PIAC Review Experiences of predecessor agencies	CH-PIAC				o						
C.1.2 Contact of all information sources previously used by predecessor agencies	CH-PIAC					o					
C.1.3 Information Service Announced	Sect. of Depg. housing CH-PIAC					o					
III. C.2 CH-PIAC Plan of Work Drafted	CH-PIAC							o			
C.2.1 Analysis of expected information requests begun						o					
C.2.2 CH-PIAC Plan of Work Draft Begun	CH-PIAC						o				
C.2.3 CH-PIAC Plan of Work Submitted, also criteria for evaluation of Plan of Work submitted to SAC	CH-PIAC							o			

SOUTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

PROCESS EVALUATION PROGRAM

X = EVALUATION

o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date	Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}	T_{16}
III. C.3 CH-PIAC Draft Plan returned to CH-PIAC		Sec. of Dept. Housing CH-PIAC								o								
III. C.4 CH-PIAC Plan of Work Submitted		CH-PIAC									o							
III. D. CH-DPI Plan of Work Submitted		CH-DPI									o							
III. D.1 Review of E/E Materials begun		CH-DPI					o											
III. D.2 Criteria for evaluating E/E materials set, criteria for evaluating CH-DPI Plan of Work submitted to SAC																		
III. D.3 CH-DPI Plan of Work submitted to SDPI											o							
D.3.1 Analysis of expected CH-DPI services begun							o											
D.3.2 CH-DPI draft plan submitted to SDPI								o										
D.3.3 CH-DPI draft plan corrections submitted to CH-DPI		SDPI							o									
D.3.4 CH-DPI final Plan of Work Submitted											o							
III. E. Plan for State E/E Center submitted to SAC		JPB-CSL									o							
III. E.1 Inventory of possible sites for State E/E Center begun		JPB-CSL					o											
III. E.2 Planning for State E/E Center begun, criteria for evaluation of plan submitted to SAC																		
III. E.3 Plan for State E/E Center Submitted		JPB-CSL									o							

NORTH CAROLINA ENVIRONMENTAL PLANNING PROCESS EVALUATION PROGRAM

X = EVALUATION
o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date	Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
III. F. SAC Begin Review of Subordinate Plans		SAC									o						
III. F.1 SAC receives criteria for subordinate plan evaluation from agencies responsible		JPB-ST, JPB-TT JPB-CSL, CH-DPI CH-PIAC, SN								o							
III. F.2 Evaluation of subordinate plans begun		SAC									X						
IV. A. Routine for Evaluation of Subordinate Plans established		SAC													o		
IV. A.1 Time table for evaluation set		SAC												o			
A.1.1 SAC confer with responsible agencies to set planning and review cycle for each subordinate plan		SAC											o				
A.1.2 Proposed time table set for review of subordinate plans		SAC, All agencies										o					
A.1.3 Feedback from all agencies as to time tables for review of subordinate plans received, final schedule published		SAC, All agencies												o			
IV. A.2 Evaluations routine for subordinate plans set based on acceptable schedules and criteria received from responsible agencies															X		

NORTH CAROLINA ENVIRONMENTAL EVALUATION PLAN

PROCESS EVALUATION PROGRAM

X = EVALUATION
o = Due

Specific Objectives	Sequence Date	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}
Strategies (Tasks)	Responsible Agency														
IV. B. Routine for evaluation and revision of SCMP will have been established	SAC, SN												o		
IV. B.1 Schedule for review of SCMP in terms of local and regional needs set	SAC, SN											o			
B.1.1 Lists of local and regional needs not met by existing programs set	SN									X					
B.1.2 Comparison of plans and programs resulting from SCMP with local and regional needs begun	SN										X				
B.1.3 SAC receives suggestions for revising SCMP and subordinate plans	SN											o			
B.1.4 Routine for transmittal of SN feedback to all agencies set	SAC											o			
IV. B.2 Routine for revising SCMP Set	SAC, SN												X		
IV. C. Routines established for all tasks in planning or delivery of E/E materials or programs	All agencies												X		
IV. C.1 Routines established for review and revision of all plans and programs in accordance with SN feedback	All agencies											o			
IV. C.2 Outlines of processes and routines used in revision of all subordinate plans sent to SAC	All agencies												o		

PROCESS EVALUATION PROGRAM

X = EVALUATION

o = DOC

Specific Objectives / Strategies (Tasks)	Sequence / Date / Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}
IV. D. Plan for Scientist and Technician training submitted to SAC for transmittal to GOV, BGU, SDCC	JPB-ST															
IV. D.1 SN begins to compile list of needs for environmental scientists and technicians-coordinated with LRO's in 17 MCR's	SN									o						
IV. D.2 Survey of resources to meet needs for scientists and technicians begun	JPB-ST										o					
IV. D.3 Plan for training scientists and technicians submitted to SAC	JPB-ST												X			
IV. E. Plan for in-service teacher training Published	JPB-TT												o			
IV. E.1 Planning for in-service teacher training begun	JPB-TT, SDPI, BGU, SDCC, SAC										o					
IV. E.2 Final revisions of plan for in-service teacher training sent to JPB-TT	SAC, SDPI, BGU, SDCC											o				
IV. E.3 Plan for in-service teacher training sent to SAC	JPB-TT												X			
IV. F. Plan for developing local and regional E/E centers published	JPB-CSL												o			
IV. F.1 Subordinate plans examined for possible roles for local and regional E/E centers	JPB-CSL										o					

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

PROCESS EVALUATION PROGRAM

X = EVALUATION

o = Due

Specific Objectives / Strategies (Tasks)	Sequence / Date	Responsible Agency	T_1	T_2	T_3	T_4	T_5	T_6	T_7	T_8	T_9	T_{10}	T_{11}	T_{12}	T_{13}	T_{14}	T_{15}	T_{16}
IV. F.2 Catalogue of possible sites and roles for local and regional E/E centers submitted to SAC		JPB-CSL										o						
IV. F.3 Plan for developing local and regional E/E centers submitted to SAC		JPB-CSL											X					
V. A. All agencies establish a continuing process for E/E		All agencies															o	
V. A.1 Experiences of T_0 to T_{15} review to determine best scheduling of future planning		All agencies															o	
V. A.2 Schedules for future planning and review submitted to SAC		All agencies															o	
V. B. Revised SCMP published entailing cumulative experience and containing guidelines and schedules for a continuing cycle of planning and review in all areas of concern																		o
V. B.1 Revision of SCMP begun		SAC, SN															o	
V. B.2 Revised SCMP Published		SAC																o

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

X = EVALUATION
O = DUE

Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_0		Gov. Task Force E/E	Governor's Task Force Submits Final Plan to Governors.	Tasks as required.
T_0		Governor	Governor Reviews State Plan.	Tasks as required.
T_0		Governor	Governor Announces State Plan at T_0.	Tasks as required.
T_1		Gov. Task Force E/E	Governor's Task Force Publishes State Plan:	1. Governor announces Plan 2. Department of Admin. makes copies available.
T_1		Governor	Governor Contacts Sec. of Admin. to begin search for Dept. to House CH-PIAC.	Tasks as required.
T_2		Governor	Governor Establishes State E/E Advisory Council (SAC):	1. Governor consults with State Depts. of Natural and Economic Resources, Agriculture, Human Resources, Administration; Board of Education; UNC Board of Governors. 1.1 Gov. sets date of consulting meeting. 1.2 Gov. sets criteria for SAC membership. 1.3 Gov. sends notices of meeting and criteria to agencies above. 1.4 Agencies submit recommendations for SAC membership. 1.5 Agencies contact their recommendations for confirmation. 1.6 Meeting held. 2. Gov. announces SAC membership. 2.1 Final recommendations for SAC membership submitted to Gov. by agencies. 2.2 Gov. announces SAC membership.

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

X = EVALUATION
O = DUE

Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_3		State Dept. Pub. Instr.	State Dept. Pub. Instr. establishes E/E Clearinghouse for Dept. of Public Instruction (CH-DPI).	As required.
T_3		Governor & SAC	Governor establishes E/E Clearinghouse for Public Information and Agency Coordination (CH-PIAC):	1. Gov. contacts Sec. of Admin. by T_3 to begin search for Dept. to house CH-PIAC. 2. Sec. of Admin. reports most favorable alternatives to the Gov. 3. Gov. establishes CH-PIAC.
T_3		State Dept. Pub. Instr.	State Dept. Public Instruction establishes E/E Special Interdisciplinary Unit (SIU).	As required.
T_4		SAC	Establishment of the State E/E Network:	1. SAC completes list of possible State Network components. 1.1 SAC determines SN criteria based on SGMP 1.2 SAC determines feasibility of implementing Phase I SN Plan.
T_4		CH-PIAC	Submission of plan of work for CH-PIAC:	CH-PIAC reviews experiences of support staffs to Gov. Task Force on E/E and Gov. Outdoor Beautification Program to determine kind and number of informational requests to expect.

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

X = EVALUATION
D = DUE

Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_5		SAC	SAC establishes State E/E Network:	1. By T_4 SAC completes list of possible SN components. 1.1 SAC determines SN criteria based on SGMP. 1.2 SAC determines feasibility of implementing Phase I SN Plan. 2. By T_5 SAC either implements Phase I SN Plan or implements an alternative plan.
T_5		SIU	Submission of plan for development of local and regional programs:	By T_5, SIU establishes criteria for development of local and regional E/E programs.
T_5		CH-PIAC	Submission of plan of work for CH-PIAC:	1. By T_5 CH-PIAC establishes information referral service. 1.1 By T_4 CH-PIAC reviews experiences of support staff to Gov. Task Force on E/E and Gov. Outdoor Beautification Program to determine kinds and numbers of requests for information to expect. 1.2 By T_5, CH-PIAC staff will contact all information sources used by Gov. Task Force on E/E to insure validity. 1.3 At T_5, the Sec. of the Dept. housing CH-PIAC will announce the information referral service.
T_5		CH-DPI	Submission plan of work for CH-DPI:	1. By T_5, CH-DPI begins review of E/E materials. 2. By T_5, CH-DPI begins analysis of expected service demands.
T_5		JPB-CSL	Submission of plan for State E/E Center:	By T_5, JPB-CSL begins inventory of possible sites for a State E/E Center based on criteria of V-13, SGMP.
T_5		CH-PIAC	Submission of plan of work for CH-PIAC	By T_5, CH-PIAC will begin analysis of expected results to determine best organization and process for agency coordination in the delivery of environmental information.

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

X = EVALUATION
O = DUE

Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_6		SAC	Establishment of JPB's:	By T_6, SAC confers with agencies involved in establishing JPB-CSL, JPB-ST and JPB-TT to determine membership.
T_6		CH-DPI	Submission of plan of work for CH-DPI:	By T_6, CH-DPI will submit draft plan of work to SDPI.
T_6		CH-PIAC	Submission of plan of work for CH-PIAC:	By T_6, CH-PIAC begins drafting a plan of work.
T_7		SAC	SAC insures establishment of JPB-TT, JPB-CSL and JPB-ST:	1. By T_6 SAC confers with agencies involved in establishing JPB-CSL, JPB-ST, JPB-TT to determine membership. 2. By T_7 SAC announces establishment of JPB's.
T_7		CH-DPI	Submission of plan of work for CH-DPI:	By T_7, CH-DPI determines list of criteria for evaluating E/E materials; and submits criteria for review of CH-DPI plan of work to SDPI.
T_7		SDPI	Submission of plan of work for CH-DPI:	By T_7, SDPI returns draft copy of plan of work to CH-DPI indicating recommended changes.
T_7		JPB-CSL	Submission of plan for State E/E Center:	By T_7, JPB-CSL begins preparation of a plan for a State E/E Center; and submits to SAC a list of criteria for evaluation of the State E/E Center Plan.
T_7		CH-PIAC	Submission of a plan of work for CH-PIAC:	By T_7, the CH-PIAC submits a draft plan of work to the secretary of the Department housing CH-PIAC; and submits a list of criteria to be used by SAC in evaluating the plan of work.
T_8		JPB-TT	Submission of plan for pre-service training to SAC:	By T_8, JPB-TT establishes criteria for pre-service training program; and submits criteria for evaluating the pre-service plan to SAC, BGU, SDPI.
T_8		Sec. of Dept. Housing CH-PIAC	Submission of plan of work to Sec. of Dept. Housing CH-PIAC	By T_8, the Secretary will return the draft plan of work to CH-PIAC with corrections and changes indicated.

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

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Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_8		All Agencies	Review of subordinate plans:	By Tg, SAC receives from each agency responsible for developing a subordinate plan, a list of criteria on which that agency's plan is to be evaluated. SAC begins to compare these with the areal criteria found in the SCMP.
T_8		JPB-ST	JPB-ST Plan of work:	JPB-ST requests SN to compile a list of needs for environmental scientists and technicians in North Carolina. SN works with 17 multi-county planning regions in developing this list.
T_9		JPB-ST	JPB-ST Plan of work:	JPB-ST begins survey of resources available to meet needs for environmental scientists and technicians.
T_9		JPB-TT	JPB-TT submits final plan for pre-service training to SAC, BGU, and SDPI.	Tasks outlined above.
T_9		SIU	SIU submits final plan for developing local and regional programs to SDPI.	Tasks outlined above.
T_9		CH-PIAC	CH-PIAC submits final plan of work to Secretary of the Department housing CH-PIAC.	Tasks outlined above.
T_9		CH-DPI	CH-DPI submits final plan of work to SDPI.	Tasks outlined above.
T_9		JPB-CSL	JPB-CSL submits final plan for State E/E Center to SAC.	Tasks outlined above.
T_9		JPB-CSL	Local and Regional Centers Plan:	JPB-CSL begins examining all sub. plans for possible roles and sites for local and regional centers.
T_9		SAC	SAC begins review of subordinate plans based on criteria submitted by planning agencies.	

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

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Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_9		SN	Routine for evaluation and revision of SGMP:	SN will have compiled lists of local and regional needs; and goals for E/E not being met by existing programs.
T_{10}		SN	Establishment of routine for evaluation and revision of the SGMP:	By T_{10}, SN begins comparing plans and programs resulting from SGMP with lists of local and regional needs and goals.
T_{10}		JPB-CSL	Plan for developing local and regional E/E centers:	By T_{10}, JPB-CSL submits to SAC a catalogue of possible sites for center and a list or roles for those centers.
T_{11}		SAC	Routine for evaluation of plans subordinate to SGMP:	By T_{11}, SAC confers with each agency responsible for a subordinate plan to determine the most favorable planning cycle for that agency.
T_{12}		SAC	Routine for evaluation of plans subordinate to SGMP:	SAC supplies each agency responsible for preparation of subordinate plans with proposed time table for evaluation of plans.
T_{12}		SAC and SN	Routine for evaluation and revision of SGMP:	SN begins presenting SAC with suggestions for revising SGMP and subordinate plans so as to better address local and regional needs and goals.
T_{12}		SAC	Routine for evaluation and revision of SGMP:	SAC will have established a routine for transfer of SN feedback to agencies responsible for subordinate plans.
T_{12}		All agencies	Routine for performing tasks in planning or delivery of E/E materials or programs:	Each agency responsible for a subordinate plan will have established a routine for revising its plan to conform with SN feedback.
T_{12}		JPB-ST	JPB-ST final plan ready:	JPB-ST submits its plan to SAC for transmittal to Gov., BGU, and SDCC.
T_{12}		JPB-TT	Submission of final inservice teacher training plan:	By T_{12}, JPB-TT submits its plan to SAC for transmittal to SDPI, SDCC and BGU.

NORTH CAROLINA ENVIRONMENTAL EDUCATION PLAN

OBJECTIVES EVALUATION PROGRAM

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Sequence	Date	Responsible Agency	Specific Objectives	Strategies (Tasks)
T_{13}		JPB-CSL	Submission of final local and regional E/E centers plan:	By T_{13}, JPB-CSL submits to SAC its plan for local and regional E/E Centers for transmittal to all agencies concerned.
T_{13}		SAC	Evaluation of all subordinate plans:	By T_{13}, SAC establishes and publishes a time table for evaluation of all subordinate plans.
T_{14}		SAC	Evaluation of all subordinate plans:	SAC initiates evaluation of subordinate plans based on evaluation time table and criteria submitted by responsible agencies.
T_{14}		SAC and SN	Routine for evaluation and revision of SGMP:	SAC and SN establishes routine for evaluating and revising SGMP to conform with SN feedback (areas of concern in SGMP, V).
T_{14}		All agencies	Routine for performing tasks in planning or delivery of E/E:	Each agency responsible for a subordinate plan submits to SAC an outline of the process by which its plan will be revised.
T_{15}		All agencies	All agencies have established continuing planning process for E/E:	1. Every agency responsible for planning for E/E should examine its planning experience to determine how its planning process can best be scheduled on a quarterly, yearly, and biennial. 2. Every agency responsible for a subordinate plan should supply SAC with a schedule for planning and review in its area of concern.
T_{15}		SAC	Revised SGMP:	SAC begins revision of SGMP using SN feedback and all agencies responsible for subordinate plans.
T_{16}		SAC	SAC publishes revised SGMP entailing the cummulative experience of T_0 through T_{15}. The revised SGMP should contain guidelines and schedules for a continuing cycle of planning and review in all areas of concern:	1. By T_{15}, SAC should have begun revision of SGMP, incorporating feedback from SN, and the agencies responsible for subordinate plans. 2. By T_{16}, SAC publishes revised SGMP.

SUPPLEMENT B

This supplement lists only some of the sources of aid in planning and implementing environmental education programs. Users should contact the North Carolina Department of Public Instruction, Division of Science Education for help in developing programs for grades K-12; and the North Carolina Environmental Education Program in Higher Education, Center for Urban Affairs and Community Services, North Carolina State University at Raleigh for assistance in programs for adults.

U. S. GOVERNMENT AGENCIES

U. S. Department of Agriculture

Soil Conservation Service

The Soil Conservation Service has the responsibility for developing and carrying out a national soil and water conservation program for soil erosion control, flood prevention, sediment reduction, land-use planning, recreation, beautification, and water development for agriculture, recreation and wildlife.

The Soil and Water Conservation Program is carried out through technical help to locally organized and operated Soil Conservation Districts. More than 3,000 Soil Conservation Districts cover almost two billion acres in the nation. Assistance to districts includes:

1) giving cooperator a soil and land capability map of his land;
2) providing information about practical alternatives for land use;
3) helping to develop an orderly plan and installation of the suggestions needed; and
4) helping with skills and knowledge in the plan's development.

More information may be received by contacting the local or district Soil Conservation Headquarters.

Forest Service

The Forest Service is charged with the responsibility for promoting the conservation of the nation's forest lands. This amounts to approximately one-third of the total land area of the United States. The national forests are managed under the twin conservation policies of multiple use and sustained yield.

A catalog listing a series of materials to help teach forest conservation is available. The Service also provides a listing of Forest Service films available on loan for educational purposes to schools, civic groups, churches and television.

Agricultural Stabilization and Conservation Service

In addition to providing local farmers with (1) price support, (2) production adjustment, and (3) disaster relief, the Agricultural Stabilization and Conservation Service provides conservation and land-use adjustment assistance, carried out through sharing with individual farmers the cost of installing needed soil, water, woodland, and wildlife conserving practices.

National Agricultural Library

The National Agricultural Library provides services to agricultural colleges, research institutions, government agencies, industry, farmers, and the general public. With resources of 1,300,000 volumes, next to the Library of Congress, it is the largest U. S. Government library. Information in the Library's collection is disseminated through loans, photocopies, reference services, and bibliographies (including the Bibliography of Agriculture). It also publishes the Pesticides Documentation Bulletin, a bi-weekly computer produced index of worldwide published literature on pesticides-related research. These services and information from the collection are available to anyone in the United States and abroad.

U. S. Department of Health, Education and Welfare

Public Health Service

Environmental concerns of the Public Health Service include expanded programs for air pollution control and solid waste disposal.

The Public Health Service is the federal agency specifically charged with promoting and assuring the highest level of health attainable for every person, i.. an environment which contributes positively to healthful individual and family living.

The major environmental functions include:

1) to identify health hazards in man's environment and in the products and services which enter his life; to develop and

promulgate, and assure compliance with standards for the control of such hazards;

2) to support the development of, and improvement of, the delivery of comprehensive physical and mental health services to all Americans;

3) to conduct and support research in medical and related sciences furthering the development of health education to insure an adequate supply of qualified health manpower.

Food and Drug Administration

The mission of the Food and Drug Administration is to protect the public health of the Nation as it may be impaired by foods, drugs, cosmetics, therapeutic devices, hazardous household substances, poisons, pesticides, food additives, flammable fabrics and various other types of consumer products.

U. S. Department of the Interior

The Department of the Interior is the nation's principal conservation agency. The Department has the basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. The Department works to assure the wisest choice in managing all the Nation's resources so each will make its full contribution to the United States - today and tomorrow.

Bureau of Sport Fisheries and Wildlife

The Bureau of Sport Fisheries and Wildlife handles hunting and fishing license sales and statistics; Federal aid to fish and wildlife restoration; fish and wildlife research; duck stamp data; migratory bird hunting regulations; recreational use of National Wildlife Refuges and National Fish Hatcheries; river-basin studies; pesticide research related to fish and wildlife; rare and endangered wildlife; and photographs.

Bureau of Commercial Fisheries

The Bureau of Commercial Fisheries conducts biological and technical research; market promotion programs; compiles statistical facts on commercial fisheries; makes economic studies; administers fisheries Loan Fund and Commercial Fisheries Research and Development Act; and manages the fur-seal resources of the Pribilof Islands, Alaska.

National Park Service

The National Park Service has information on 259 national park administered areas, including 32 national parks, 11 national recreation areas, seven national seashores, and dozens of national monuments and historic sites.

Environmental Control Administration

The mission of the Environmental Control Administration is to preserve and improve the physical environment in order to promote the health and welfare of man through programs designed to reduce the levels of exposure of people to the hazards of improper housing, noise, rodents, insects, occupational and community accidents, waterborne diseases, radiation, and waste accumulation.

Bureau of Land Mangement

The Bureau of Land Management has information on Wildlife Management on 467 million acres of public lands; camping, hunting, fishing, hiking, pack trips on public land, mostly in the West and Alaska; wildlife use of lands; forests and watershed practices aiding wildlife and recreation; outdoor pursuits on public land areas; obtaining public lands for state and community parks; photographs.

Bureau of Indian Affairs

The Bureau of Indian Affairs distributes information on Indians and their relationship to the Federal Government; tribes, when the tribe is specified; locations of specific reservations as well as ceremonial and celebration information.

Bureau of Outdoor Recreation

The Bureau of Outdoor Recreation has information on national recreation needs and plans; State, government and private programs for recreational development; statistics on needed areas, travel, outdoor pursuits; coordination of various Federal recreation programs; forecasts of future recreational needs.

Bureau of Mines

The Bureau of Mines maintains a free-loan library of 16 mm motion pictures in sound and color, several of which picture the mineral and other natural resources - such as parks, scenic and tourist attractions of various states. Also, the Bureau publishes technical literature useful to amateur and professional prospectors and gem-stone collectors; photographs.

Office of Saline Water

The Office of Saline Water distributes information and pamphlets on the Department's program to develop low-cost processes for desalting sea or brackish water through operation of demonstration plants; plant visits welcome; Saline Water Conversion Research and Development Test Station, Wrightsville Beach, N. C., and demonstration plants at Freeport, Texas, Roswell, N. M. and Webster, S. D.

Federal Water Pollution Control Administration

The Federal Water Pollution Control Administration produces popular booklets and leaflets on importance of clean water; material on citizen action for cleaning up rivers, lakes, streams, estuaries; 16 mm color films on water quality and pollution control; photographs of pollution problems and water uses.

To obtain clean water the agency:

- Administers grants to communities for construction of municipal sewage treatment plants.
- Administers enforcement provisions of the Federal Water Pollution Control Act.

- Encourages and supports states in the establishment of water quality standards.
- Provides technical assistance to states on water pollution problems.
- Develops long-range water pollution control programs in major river basins and estuaries.
- Operates monitoring stations on the nation's waterways.
- Studies and prepares reports on special problems such as oil pollution, watercraft wastes and thermal pollution.

Geological Survey

The Geological Survey produces general and detailed geologic and topographic maps; geologic reports on mining districts, mineral occurrences, laboratory investigations and many areas of general interest; water resource studies; information from 18,000 stations on stream flow quality, sediment, and ground water levels; aerial photographs at 1:60,000 scale of entire country and at other scales of many local areas; photographs of activities.

Bureau of Reclamation

The Bureau of Reclamation distributes information on widespread recreational use of more than 100 reservoirs--fishing, water sports, boating, swimming, scenic tours and camping areas; sight-seeing attractions at dams and related works; recreational development plans on basin-wide pattern; photographs.

U. S. Department of Commerce

The National Oceanic and Atmospheric Administration

The National Oceanic and Atmospheric Administration is responsible for research on long-range effects of pollution on the physical environment, especially global trends affecting the oceans and the atmosphere.

U. S. Environmental Protection Agency

The Environmental Protection Agency, part of the Executive Office of the President, is charged with mounting an integrated, coordinated attack on pollution. The agency has responsibilities in the areas of standards-setting and enforcement, research and monitoring, technical and financial assistance, manpower development, and citizens technology assessment. EPA hopes, by widely disseminating scientific data bearing on environmental problems, to bring citizens the facts on which they can make sound choices in environmental issues.

STATE GOVERNMENT AGENCIES

Consolidated University of North Carolina

The Consolidated University of North Carolina offers many courses for teachers and other interested adults in the field of environmental science. Specific areas might include Institute for Environmental Health, School of Public Health, Carolina Population Center, Institute of Marine Science at Morehead City, and the various Departments of Botany, Zoology, Chemistry and Physics. Others are the School of Forest Resources and the School of Design. Much of the emphasis of these Departments is in the area of graduate education, but interested teachers can avail themselves of some of the opportunities they provide.

North Carolina Department of Administration

The Department of Administration represents the consolidation of all state fiscal and management agencies in one department. Two of the Department's divisions are directly involved in the conservation and development of the state's natural resources.

The Property Control Division

The Property Control Division is responsible for all state-owned land. The sale, purchase, lease, or transfer of state property is handled by this agency of state government.

The Office of State Planning

The objectives of the Office of State Planning are the development of the total resources of North Carolina. Its operations are divided according to the three basic areas of the state - the Appalachian region, the Piedmont region, and the Coastal Plain region. A major function of this office is to manage federal-state programs of resource use. Joint federal-state programs include:

(1) The Appalachian Regional Commission

- The Division of Water Resources in Appalachia - a comprehensive study participated in by virtually all of the federal agencies with water-related interests. A final report is available.
- A Staged-Development Program of Water Resources for the Appalachian Corridors - in cooperation with other state agencies. A final report is available.
- Soil Stabilization and Conservation - with the Soil Conservation Service and Agricultural Stabilization and Conservation Service as well as other state agencies, this program provides funds to farmers in Appalachia for soil conservation purposes.
- Parks and Recreation - Funds are available for parks and recreation areas.

(2) The Coastal Plains Regional Commission

- Santee River Basin Study - with the Soil Conservation Service, the Planning Division is coordinating studies of these regions.
- Upper Cape Fear River Basin Study - with the Soil Conservation Service, and the Office of Water and Air Quality (DNER), the Planning Division is coordinating studies of these regions.
- Wild, Scenic, and Recreational Rivers - with the Bureau of Outdoor Recreation, this Division is coordinating state efforts to designate such areas.

The State Planning Division sponsors seminars and public meetings demonstrating the importance of planning to conservation. It publishes numerous reports and periodicals that deal with conservation. The Division has produced a movie relevant to the conservation needs of the Piedmont. It is available on loan from the Institute of Government, Chapel Hill, or the Department of Public Instruction, Raleigh.

Environmental Education and Outdoor Beautification Programs

The office can provide access to a broad range of information about environmental matters, formal and informal environmental education, and technical environmental assistance. The office can also offer assistance in planning and conducting local programs aimed at improving the visual environment.

North Carolina Department of Agriculture

The Department of Agriculture is the agency that serves the state's farm population. In addition, the department carries out services and activities designed to protect the consumer. The department is responsible for administering many laws governing materials affecting the total environment. The regulatory responsibilities are accompanied by educational programs, news releases, speeches, special articles, and the department's own paper, Agricultural Review. Of special interest to educators is the department's division controlling the State Museum of Natural History. The division is responsible for the exhibit halls in Raleigh, scientific information, natural history publications, literature, lantern and 35 mm programs, slide specimens for wildlife training courses, traveling exhibit loans, and administering the Hampton Marine Museum, Morehead City.

North Carolina Department of Human Resources

The State Board of Health

The State Board of Health is charged with the protection of the public health interests of the state, especially in connection with communicable and infectious diseases, water supplies, sewage disposal, and registration of births and deaths. There are seven divisions of the State Board of Health. Following is a brief description of each program which produces information of environmental concern:

The Dental Health Division

The Dental Health Division is charged with conducting programs in education, prevention, research, and dental care. The division conducts educational and preventive programs involving the use of fluorides. The division prepares and distributes materials at all levels relating to fluorides and would be glad to participate in developing curriculum programs in dental health.

The Radiological Health Section

The Radiological Health Section is charged with providing for the radiation safety of the North Carolina public and users of radiation in North Carolina through the operation of the North Carolina Radiation Protection Programs. The Radiological Health Section makes its staff available for the presentation of lectures and discussions to any group including: public school classes, professional groups, medical groups, college and university classes, and federal and civil defense training courses. A limited quantity of printed material is also available from the Radiological Health Section upon request.

The Community Health Division, Nursing Section

The section's principal programs include: (1) in-service education for nurses employed in ESEA programs, and (2) workshops and seminars for ESEA. The section's education program encourages school nurses to participate in in-service programs covered by local public health nurses. Subjects could include: school health, administration and service, mental health, child growth and development, nutrition, health counseling, case finding and follow-up records, etc.

Several public health service short training grants are available to allow school nurses to improve their background and experience both at the local and nursing school level.

The Division of Epidermiology, Veterinary Public Health Section

The section operates a pesticides program under contract with the Food and Drug Administration of the U. S. Public Health Service. The section operates periodically

in-service training programs emphasizing potential health hazards.

The Community Health Division, Health Education Section

The section provides consultation and technical assistance in the planning and implementation of the educational components of health and health-related programs. Specific competencies are in the areas of community organization, identification of target groups, educational methods, selection and preparation of materials, training programs and evaluation. A quarterly bulletin on suggested bulletin boards and education materials is sent to local health departments. Services are available to state and community agencies and organizations concerned with health problems.

The Sanitary Engineering Division, Engineering Section

The section is responsible for the surveillance of all public water supplies in North Carolina. The engineering section keeps in touch with waterworks officials, water treatment facility operators, city officials, and others in an effort to assure that all public water supplies in the state furnish at all times, water safe for human consumption. The section has available color pamphlets which explain water treatment and water supply protection to school-age children. Also, technical publications on protection of water supplies and waste water disposal are available. The personnel of the section attend and participate in regional and state water works meetings, and frequently conduct educational training programs.

Film Library, Central Administration

The State Board of Health also operates a Film Library on a free-lending basis to the public and private schools, colleges, universities, civic groups, and many others on a state-wide basis. The library has approximately 3,650 films with about 1,000 individual titles. These films are in the field of health and health-related areas.

North Carolina Department of Natural and Economic Resources

There are nine departmental divisions with direct environmental functions.

The Division of Commerce and Industry

The division promotes, industrial development for the entire state. The division's technical services provide market surveys and supporting studies in an effort to locate industrial concerns. It produces graphic work and publishes a newsletter as well as transportation and airport directories and special brochures.

The Office of Earth Resources

The division encourages and conducts research on the state's mineral resources, publishes reports and geological maps and assists the private sector in promoting development of the state's mineral resources. The division prepares and distributes and Educational Series of publications describing the geology and mineral resources of North Carolina. A special effort is made to place this material in the hands of teachers and earth science students. Staff geologists are available to a limited degree to give talks to civic and school groups.

The Division of Travel and Promotion

The division is in charge of North Carolina's industrial and tourist development. It manages advertising programs and conducts a general campaign for tourist promotion.

The Office of Water and Air Resources

The Office of Water and Air Resources is responsible for the protection, wise management, regulation, and use of water and air resources of the state. Some of the principal programs of the division include: (1) Water Pollution Control - a program based on a stream classification system whereby the best use of a body of water is determined and a suitable classification and water quality standard is established. (2) Air Pollution Control - a program based on the development and adoption of ambient air quality standards adequate to protect public health, plant and animal life, property,

and the development, adoption and implementation of emission control standards adequate to achieve the ambient air quality standards. (3) Water and Air Information Program - this program includes all measures reasonably necessary to assure that those affected by water and air management decisions and plans have had an adequate opportunity to be heard. The program publicizes the activities of the division to assure the fullest possible understanding of actions, to protect and support beneficial water and air resources use, to assure that the public understands the need for and content of long range plans and other activities to keep the public informed.

A supply of the division's material and information is available to special interest groups, schools, and students in higher institutions. Staff personnel participate in meetings and seminars and deliver talks to civic clubs and professional organizations.

The Division of Community Resources

The overall goal of the division is to strengthen the institutional capability of local governments to understand and respond to the needs of all the citizens. The methods used to achieve this are:

1) Planning and management services to local governments
2) Training and technical assistance for local officials
3) Administration of special programs in housing, urban development, and city-state cooperative efforts

The Division of State Parks

The division develops, maintains, and administers North Carolina's State Parks. It is the aim of the State Park System to: (1) preserve and protect the natural areas of unique or exceptional scenic value for the citizens of today and for the generations to come; (2) operate the State Parks to provide recreational use of natural resources, and; (3) to portray and interpret plant and animal life, geology and all other natural features and processes included in the various State Parks.

The division's education program provides: museums and public displays; park naturalist slide lectures; cooperation with universities in implementing research on park land; publications including state park brochures, travel maps, information sheets, and bulletins; cooperation with secondary schools involving outdoor education and school camping, and; special lectures for civic and cultural groups.

The Division of Geodetic Survey

The division locates and erects boundary markers on monuments. It is responsible for the compilation and evaluation of accurate geodetic data, the publishing of geodetic maps, and providing technical help of value to land owners, developers and construction projects. The division furnishes published data to city engineers and registers of deeds, distributes newsletters to engineers and land surveyors, and conducts talks to civic groups.

The Division of Forestry

The division is the largest of the eight divisions of the Department of Conservation and Development. It is in charge of protecting more than 18,000,000 acres of state woodland from fire, insects, and disease. The division also promotes and carries out reforestation across the state. It is charged with the enforcement of laws governing forests and works to promote better forestry practices and management.

The education program of the North Carolina Forest Service is carried out by the county personnel and district personnel at the local level. Literature concerning all programs is distributed to schools. Programs for schools, civic clubs, and other interested groups are a regular part of the information program.

The Division of Commercial and Sport Fisheries

The division has jurisdiction over all activities connected with the conservation and regulation of marine and estuarine resources. The division's program consists of the following activities: (1) research to develop information upon which to base management and regulatory action; (2) management to enhance the value of marine and estuarine resources; (3) regulation of activities which may endanger marine and

estuarine resources; and (4) education of the public in order to provide more general understanding of the value of these resources and the factors which affect them. A monthly newsletter is available for dissemination to all interested persons.

The Division of Wildlife Resource

This division, together with the North Carolina Resources Commission has the duty of managing, restoring, developing, cultivating, conserving, protecting and regulating the wildlife resources of the state, and administers the laws relating to game, game and freshwater fishes, and other wildlife resources to the end that there may be provided a sound, constructive, comprehensive, continuing and economical game, game fish and wildlife program. It is basically a regulatory commission with the authority to license and collect revenue to finance its operations.

The Commission's education program includes a monthly magazine, Wildlife in North Carolina; the issuance of books, bulletins, brochures, and releases on various subjects relating to game and fish and their relation to the other renewable natural resources; the production of 16 mm films for distribution; the production of weekly television and radio programs on conservation; and personal contacts with schools and teachers across the state.

Department of Cultural Resources

The Division of Archives and History

The Survey Unit of the Research, Restoration and Survey Branch deals with Environmental Impact Statements for the office. The Survey Unit has files and marked county maps of historically or architecturally significant properties throughout the state. (A summary of the work of the unit is attached.) They are a source of information for environmentalists (mainly for state and federal agencies), historians, students, preservationists, and architectural historians. The files are expanded through the ongoing inventory, often with the ehip of informed local contacts.

Of particular interest to environmentalists and those preparing environmental impact statements is the National Register program. The properties on the National Register or under consideration for the National Register have a degree of protection if they are to be adversely affected by federally funded projects.

Members of the Research, Restoration and Survey staff, of which the Survey Unit is a part, are available to give slide talks to interested organizations on request. Though topics vary according to the group and the area of expertise of the speaker, they include: A Guide to Architectural Styles in North Carolina; The National Register of Historic Places in North Carolina; Methods and Techniques of Coordinating an Architectural Survey; Preservation Programs Administered by the Office of Archives and History; Restoration of State Historic Sites and Private Sites in North Carolina; and Adaptive Uses for Existing Structures.

North Carolina Department of Public Instruction

The Department of Public Instruction has been the leader in developing Environmental Education in North Carolina. The Division of Science Education has the responsibility for Environmental Education in the public schools. That division is working to establish Environmental Education as a planned part of the curriculum in all schools. The division has published a number of work-books, teacher's guides, and instructional units that can be used in locally developed Environmental Education programs. Personnel of the division work closely with local officials and the university system in developing in-service teacher training programs. The division is currently developing Environmental Education audio-visual materials for use in all grade levels. The division serves as the principal contact point for school officials and teachers seeking assistance from state agencies in developing Environmental Education programs.

PRIVATE AGENCIES

Audubon Society

The National Audubon Society was organized in 1905 by conservationist, George Bird Grinnell. The Society cares not only about birds but all wildlife, especially nearly 1,000 endangered species. The organization cares about any and all conservation which serves to preserve the balance of nature in a world in which that condition is highly threatened. The organization works to educate the public to conservation needs. It maintains a staff of lecturers, sends out special mailings and pleads for public awareness of the natural wildlife needs of the Nation through its bi-monthly publication, Audubon. It has battled against the use of DDT, and for the preservation of endangered species and wilderness areas such as North Carolina's Bald Head Island.

To support sea birds, the Society owns or leases islands for the protected breeding of ducks and sea birds. With a membership of around 80,000, the organization is affiliated with an additional 250 environmental groups. The membership also supports wildlife films, camps, Audubon Centers, aids in natural science, and wildlife research.

Belle W. Baruch Foundation

The Belle W. Baruch Foundation is dedicated to teaching and research in forestry, marine biology, and the care and propagation of wildlife, flora, and fauna. The Foundation centers many of its activities in South Carolina. It was responsible for supporting the development of the South Carolina Conservation Curriculum Improvement Project's Teacher Guide series, People and Their Environment.

Ford Foundation

The Ford Foundation, through the Resources and Environment Program of the National Affairs Division, assists in the search for the underlying causes of the present environmental crisis. Human well-being is effected by air and water pollution, wildlife extinction and land misuse. The Foundation encourages a focus upon the causes rather than the symptoms of the neglect.

National Geographic Society

The National Geographic Society is a non-profit scientific and educational organization for increasing and diffusing geographic knowledge and promoting research and exploration.

The Society publishes a variety of materials of interest to educators. In addition to its journal, National Geographic, the Society also publishes maps, books, and special publications. The School Service Section produces a National Geographic School Bulletin and various educational filmstrips. The Society periodically produces a television program related to environmental education.

Keep America Beautiful, Inc.

Keep America Beautiful, Inc. is the national public service organization for the prevention of littering and it aims to preserve and improve America's scenic beauty through a continuing program of public education awareness to stimulate individual responsibility. It is supported by industry, business, labor and trade associations representing nearly every industrial category and other information to education and the general public. Several teacher's guides with suggestions for litter prevention activities and youth group projects are available at low cost upon request. The North Carolina affiliate of this organization is known as Keep North Carolina Beautiful.

North Carolina Wildlife Federation, Inc.

The North Carolina Wildlife Federation is a statewide, non-profit, non-political organization interested in the present and future well-being of the state. It supports conservation, good farming practices, wildlife and forest management, and wholesome outdoor recreation. Its purpose is to coordinate the efforts of conservationists to correct the abuses to people in conservation issues. The Federation assists in many conservation education projects with interested youth and adult groups. The North Carolina Wildlife Federation works with schools, newspapers, radio, television and through its affiliated clubs to inform the public of the need for the solution of the state's overall conservation and pollution problems.

National Wildlife Federation

The National Wildlife Federation operates as a membership organization whose objective is to create and encourage an awareness among the people of this nation of the need for wise use and proper management of those resources of the earth upon which the lives and welfare of men depend: the soil, the water, the forests, the minerals, the plant life and the wildlife. The Federation publishes a bi-monthly National Wildlife and a monthly Ranger Rick's Nature Magazine. The later offers a year-round program of activities, adventure, and knowledge for elementary school children which helps them appreciate and enjoy nature. In addition, the Federation publishes numerous information bulletins and packets for educators to supplement their conservation education programs.

Sierra Club

This is a membership organization devoted to exploring, enjoying, and protecting natural scenic resources. Active in conservation administration,

litigation, and legislation, it publishes books on wilderness and other scenic resources, guide books, and a monthly bulletin and other conservation education materials.

The North Carolina Outward Bound School

Outward Bound is an educational concept originated in England over twenty-five years ago by Kurt Hahn. It is a program of outdoor education in the North Carolina mountains. The activities are intense and rigorous and include preparatory training, rock climbing, conditioning and initiative development, rescue and fire training, expeditions, solo experience, and value formation. The students include university and prep-school students, secondary school students, and young job holders.

Special Resource Areas

North Carolina has many museums, botanical gardens, and nature preserves which are excellent resources for environmental education. While not devised solely for E/E, or designed specifically to aid students and adults in furthering their awareness of their environment, these establishments have excellent and varied facilities which are easily adaptable to the broad range of activities involved in environmental education.

The most complete listing of such resource areas is found in the Directory of North Carolina historical societies, museums, preservation commissions and research agencies. While some of the listings are not involved in E/E, it is an excellent resource catalogue and is available from the Department of Archives and History, Box 1881, Raleigh, North Carolina 27611.

Several potential E/E resource areas which have been used in the past or where E/E programs are planned for the near future are:

N.C. Museum of Natural History, Raleigh

Hampton Marine Museum, Morehead City

Winston-Salem Nature Science Center, Winston-Salem

Schiele Museum of Natural History, Gastonia

Charlotte Nature Museum, Charlotte

Durham Museum of Science, Durham

Natural Science Center, Greensboro

N. C. Botanical Gardens, Chapel Hill

Weymouth Center, Southern Pines

Children's Museum, Rocky Mount

Morehead Planeterium, Chapel Hill

McDade Wildlife Museum, Burlington

Others

In addition to the organizations and agencies listed above, there are numerous local, county and regional groups with vital interest in Environmental Education.

APPENDIX B

GENERAL ASSEMBLY OF NORTH CAROLINA
1973 SESSION
RATIFIED BILL

CHAPTER 619

HOUSE BILL 1114

AN ACT TO BE KNOWN AS THE NORTH CAROLINA ENVIRONMENTAL EDUCATION ACT OF 1973.

The General Assembly of North Carolina enacts:

Section 1. Short Title. This act shall be known and cited as the "Environmental Education and Information Act of 1973".

Sec. 2. Declaration of Purpose. The purpose of this act shall be to encourage, promote, and support the development of programs, facilities, and materials for the purpose of environmental education in North Carolina.

Sec. 3. Creation. There is hereby created a North Carolina Environmental Education and Information Program (hereinafter referred to as "Program") within the Department of Administration.

Sec. 4. Powers and Duties of Secretary. The powers and duties of the Secretary, or his designee, shall be as follows:

(1) Coordinate, through technical assistance and staff support, the various agencies, institutions, and citizens involved in the planning and implementation of a statewide program of environmental education;

(2) Be responsible for the allocation of funds for, but not necessarily limited to, such matters as the purchase of educational equipment, materials and supplies; the construction or modification of facilities; and the employment of consultants

and other personnel necessary to carry out the provisions of this act;

(3) Act as a liaison between the Executive branch of government and established groups with statewide environmental concern so as to encourage understanding of and engender support of governmental planning and policy in the area of environmental quality;

(4) Encourage coordination between the various State and federal agencies, citizens groups, and the business and industrial community, in the dissemination of environmental information and education.

(5) Utilize existing programs, educational materials, or facilities, both public and private, wherever feasible;

(6) Seek the advice and assistance of the Advisory Council, created pursuant to Section 5 of this act, in gathering information on all existing programs, educational materials and facilities; and

(7) Address his activity toward the environmental problems and priorities established by the North Carolina Council on State Goals and Policies.

Sec. 5. Advisory Council and Fiscal Review Board. (a) There is hereby created an Advisory Council to advise and assist the Secretary, or his designee, in carrying out the provisions of this act. The Advisory Council shall consist of seven members, appointed as follows:

(1) The Governor shall appoint five members: Two to represent the business and industrial community of the State; two to

represent civic groups of the State; and one to represent local elected and appointed governmental officials.

(2) The Board of Governors, University of North Carolina, shall appoint one member.

(3) The North Carolina Board of Education shall appoint one member.

(b) There is hereby created a Fiscal Review Board (hereinafter referred to as "Board") which shall determine annually how the funds appropriated under this act shall be allocated and expended pursuant to Section 4 of this act. The Board shall consist of five members, appointed as follows: One member shall be selected by the State Board of Education; two members shall be selected by the Secretary; and two members shall be selected by the Governor. No member of the Board may have an interest, directly or indirectly, in any qualifying institution, as defined in this act. All members of the Board prior to selection shall have demonstrated an interest in environmental education and information dissemination. The members of the Board shall serve at the pleasure of the Governor.

(c) The Secretary shall sit as an ex officio member of the Board but shall have a vote only in the event of a tie vote on the matter of allocation of funds.

(d) Both the Advisory Council and the Board shall submit an annual report to the Governor for transmittal to the General Assembly. Each report shall set forth with such specificity the respective activities of the Advisory Council and Board in order that the General Assembly may properly evaluate the success of the Program, and the desirability of its continuance.

(e) Membership on the Advisory Council or the Board is hereby declared to be an office which may be held concurrently with other elective or appointive offices in addition to the maximum number of offices permitted to be held by one person under G.S. 128-1.1.

Sec. 6. Grants. The objective of grants made under the provisions of this act shall be to promote the further development of local and regional environmental education and information dissemination to aid especially, but not limited to, school-age children.

(1) Capital Improvement Grants. Applications for capital improvement grants will be awarded on a 50-50 matching basis to qualifying institutions. Applications will be received and evaluated by the Board, which shall have the final say as to which projects will be funded. All capital improvement grants may not exceed a total of one hundred thousand dollars ($100,000).

(2) Grants for Staff, Equipment and Supplies. Applications for funding of staff positions, equipment and supplies shall be submitted to the Secretary for the approval of the Board. No one grant may exceed ten thousand dollars ($10,000). The grant monies may be disbursed directly to a local school administrative unit that is acting jointly with a local institution or said monies may be disbursed directly to the applicant.

Sec. 7. Definitions. For the purposes of this act:

(1) "Environmental" means those principles drawn from the natural and social sciences which seek to explain the interaction of the human and nonhuman ecology.

(2) "Qualifying Institution" means a nonprofit institution, publicly or privately owned, which makes available to the general public educational and informational materials, programs and services intended to further the understanding of environmental concepts as exemplified in the natural sciences, and the social sciences.

(3) "Secretary" means the Secretary of the Department of Administration.

Sec. 8. Appropriation. There is hereby appropriated, in addition to all other appropriations, the sum of ninety-five thousand dollars ($95,000) for the fiscal year 1973-74 to the Department of Administration to carry out the provisions of this act.

Sec. 9. This act shall become effective on July 1, 1973, and shall remain in effect until June 30, 1974. Those funds which are not allocated by June 30, 1974, and expended by September 1, 1974, shall be returned to the General Fund of the State.

In the General Assembly read three times and ratified, this the 18th day of May, 1973.

JAMES B. HUNT, JR.

James B. Hunt, Jr.
President of the Senate

JAMES E. RAMSEY

James E. Ramsey
Speaker of the House of Representatives